IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

Quartz Auto Technologies LLC Plaintiff, v. Lyft, Inc. Defendant.	Civil Action No. 6:20-cv-00156 The Honorable _____ **COMPLAINT FOR PATENT INFRINGEMENT** **JURY TRIAL DEMANDED**

COMPLAINT FOR PATENT INFRINGEMENT AND DEMAND FOR JURY TRIAL

TO THE HONORABLE JUDGE OF SAID COURT:

Plaintiff Quartz Auto Technologies LLC ("Quartz Auto"), files this Complaint for Patent Infringement and Damages against Defendant Lyft, Inc. ("Lyft" or "Defendant"), and would respectfully show the Court as follows:

PARTIES

1. Plaintiff Quartz Auto is a Delaware limited liability company with its principal place of business located at 301 S. Fremont Ave, Baltimore, MD 21230.

2. On information and belief, Defendant Lyft is a Delaware corporation with its principal place of business located at 185 Berry Street, Suite 5000, San Francisco, CA 94107. Lyft is registered to conduct business in Texas, and may be served through its registered agent, The Corporation Trust Company, located at 1999 Bryan St., Suite 900, Dallas TX 75201-3136.

JURISDICTION AND VENUE

3. This is a civil action for patent infringement arising under the Patent Laws of the United States as set forth in 35 U.S.C. §§ 271, *et seq*.

4. This Court has federal subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a) and pendant jurisdiction over the other claims for relief asserted herein.

5. This Court has personal jurisdiction over Defendant pursuant to TEX. CIV. PRAC. & REM. CODE § 17.041 *et seq*. Personal jurisdiction exists over Defendant because Defendant has minimum contacts with this forum as a result of business regularly conducted within the State of Texas and within this district, and, on information and belief, specifically as a result of, at least, committing the tort of patent infringement within Texas and this district. Personal jurisdiction also exists because, on information and belief, Defendant has: (1) operated the Internet website, https://www.lyft.com/, and provided a mobile application (the "Lyft app"), which is available to and accessed by ridesharing users, customers, and potential customers of the Defendant, both riders and drivers, within this judicial district; (2) operated within the judicial district, with ridesharing offered to users, customers, and potential customers of Defendant in locations including Austin, El Paso, San Antonio, and Waco; (3) actively advertised to residents within the District to hire more drivers; (4) transacted business within the State of Texas; (5) actively infringed and/or induced infringement of Plaintiff's patents in Texas; (6) established regular and systematic business contacts within the State of Texas; and (7) continue to conduct such business in Texas through the continued operation within the district. Accordingly, this Court's jurisdiction over the Defendant comports with the constitutional standards of fair play and substantial justice and arises directly from the Defendant's purposeful minimum contacts with the State of Texas.

6. This Court also has personal jurisdiction over Defendant, because in addition to Defendant's own online website and advertising within this judicial district, Defendant has also

made its ridesharing services available specifically within this judicial district via the following means:

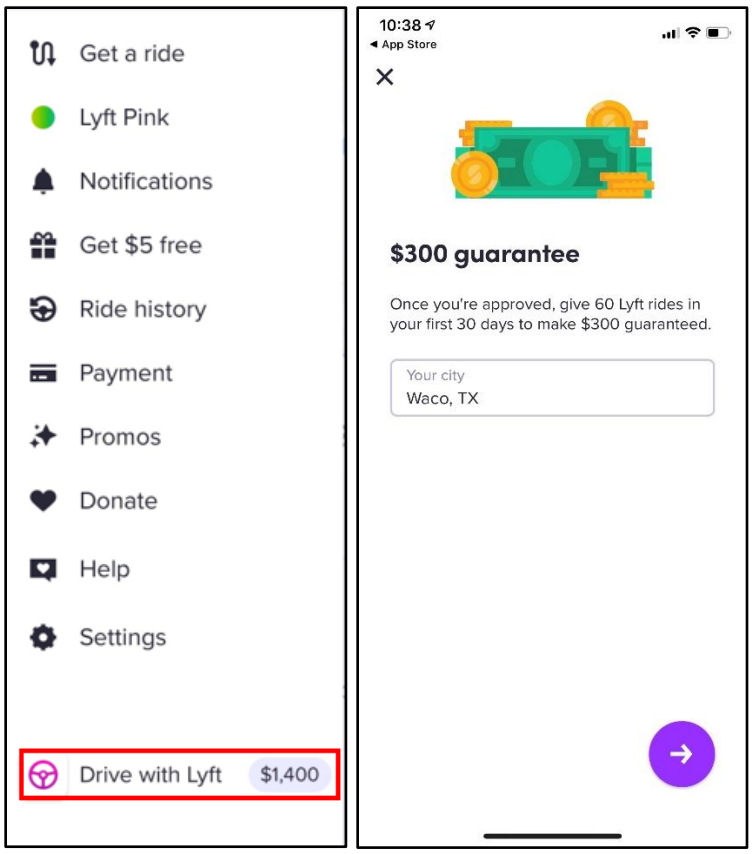
a. Defendant offers ridesharing within the judicial district, in locations including:

- Austin (https://www.lyft.com/rider/cities/austin-tx),
- El Paso (https://www.lyft.com/rider/cities/el-paso-tx),
- San Antonio (https://www.lyft.com/rider/cities/san-antonio-tx), and
- Waco (https://www.lyft.com/rider/cities/waco-killeen-tx).

b. Defendant actively advertises to district residents to hire more drivers within the district. For example:

- Austin (https://www.lyft.com/driver/cities/austin-tx), and
- Waco (https://www.lyft.com/driver/cities/waco-killeen-tx).

c. Defendant actively promotes working for Lyft to all, including district residents, who have downloaded the Lyft passenger application, as "Drive with Lyft" is listed in the application drop down menu, and incentivizes new drivers with guaranteed money dependent on "X" number of drives in first 30 days (guaranteed money amount and number of drives depends on location).



Lyft Passenger Application Screenshots February 16, 2020

d. Defendant provides in-person support via "Driver Hubs" within the Western District of Texas, including a driver center in Austin (6375 US-290, Austin, TX 78723) and both a service desk and airport service desk in San Antonio (https://thehub.lyft.com/hours/texas).

7. Defendant is subject to this Court's specific and general personal jurisdiction pursuant to due process and/or the Texas Long Arm Statute, due at least to Defendant's substantial business in this forum, including: (i) at least a portion of the infringements alleged herein; and/or (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct, and/or deriving substantial revenue from goods and services provided to individuals in Texas and in this district.

8. Venue is proper in this Court under 28 U.S.C. §§ 1391(b) and (c) and 28 U.S.C. § 1400(b) based on the information and belief that the Defendant has committed or induced acts of infringement, and/or advertise, market, sell, and/or offer to sell products, including infringing products, in this judicial district. In addition, Defendant maintains numerous regular and established places of business in this district by providing its ridesharing service in this district in, for example, Waco, Texas. In addition, Defendant maintains regular and established places of business in this district, as discussed in ¶6(d).

THE PATENTS-IN-SUIT

9. On September 3, 2002, United States Patent No. 6,446,004 ("the '004 patent"), entitled "System and Method for Implementing Proximity or Location Driven Activities" was duly and legally issued by the United States Patent and Trademark Office ("USPTO") to Kevin Tung Cao, Daniel Alexander Ford, and Reiner Kraft, with the International Business Machines Corporation ("IBM") as assignee. A copy of the '004 patent is attached hereto as **Exhibit A**.

10. On October 19, 2004, United States Patent No. 6,807,464 ("the '464 patent"), entitled "Systems and Methods for Distributing Information to an Operator of a Vehicle" was duly and legally issued by the USPTO to Philip Shi-lung Yu, David P. Greene, Edith H. Stern, and Barry E. Willner, with IBM as assignee. A copy of the '464 patent is attached hereto as **Exhibit B**.

11. On May 6, 2008, United States Patent No. 7,370,085 ("the '085 patent"), entitled "Method, System, and Program for Providing User Location Information with a Personal Information Management Program" was duly and legally issued by the USPTO to Michael Wayne Brown, Rabindranath Dutta, and Michael A. Paolini, with IBM as assignee. A copy of the '085 patent is attached hereto as **Exhibit C.**

12. On June 7, 2011, United States Patent No. 7,958,215 ("the '215 patent"), entitled "System Management Using Real Time Collaboration" was duly and legally issued by the USPTO to David Gerard Herbeck and Susette Marie Townsend, with IBM as assignee. A copy of the '215 patent is attached hereto as **Exhibit D**.

13. On October 4, 2016, United States Patent No. 9,460,616 ("the '616 patent"), entitled "Management of Mobile Objects and Service Platform for Mobile Objects" was duly and legally issued by the USPTO to Tomohiro Miyahira and Gaku Yamamoto, with IBM as assignee. A copy of the '616 patent is attached hereto as **Exhibit E**.

14. The '004, '464, '085, '215, and '616 patents are referred to hereinafter as the "Quartz Auto Patents."

15. Plaintiff Quartz Auto Technologies LLC is the owner of the entire right, title, and interest in and to the Quartz Auto Patents. The Quartz Auto Patents were originally owned by and assigned to IBM, and through predecessors in interest that were duly recorded in the U.S. Patent Office, were ultimately assigned to Quartz Auto on or about February 13, 2020 and February 14, 2020, and recorded in the Patent Office, with all right, title, and interest in and to the Patents to Quartz Auto. Each of the Quartz Auto Patents are presumed valid under 35 U.S.C. § 282.

United States Patent No. 6,446,004

16. The '004 patent claims a system and associated method for implementing a proximity driven activity. In one embodiment, the system and an associated method of the '004 patent allow requests to be executed at some point in the future without specifying the exact time or necessarily a precise location. The execution time of the request is linked to the arrival of a person at, or near a geographic location or destination. When a person arrives at that location, or comes within a proximity threshold distance of that location, the request to interact will be

executed. The proximity threshold "can be adjustable and programmable" (col. 2, lines 6-7). A "mobile computing device" may be, for example, a personal computer, a personal digital assistant, and preferably possesses a wireless means of communication. In the present complaint, Defendant's ride-hailing system and method infringe on these inventive aspects of the '004 patent by, for example, using both passenger and driver applications that input, collect, and transmit such proximity driven activity between the passenger and the driver, and vice versa. Here, the Lyft applications, installed and used on mobile computing devices (most often wireless mobile phones), collect a passenger's current location and inputted destination and executes software code to determine which driver is within the proximity threshold to complete the passenger's request. The passenger's current location and inputted destination is then transmitted through the Lyft application to the driver's mobile device.

17. The '004 patent overcomes shortcomings in the prior art, which were ineffective at integrating location positioning (col. 1, lines 36-40) into functional applications in the ever-advancing areas of GPS and mobile computing. Certain of the inventive aspects of the '004 patent addressed the need for improvements in the area of location dependent data processing, by developing software for use with a mobile computing device combined with a global positioning system locator (col. 1, lines 16-24). More specifically, the inventive aspects of executing an activity linked to the arrival of a person at or near a geographic location or destination, which is dependent on a mobile computing device and the calculated current location and destination of the mobile device (col. 1, lines 61-67), were not well-understood, routine, or conventional at the time of the invention.

United States Patent No. 6,807,464

18. In one embodiment, the '464 patent claims a method and associated system of distributing vehicle control information by determining, at a controller location, the vehicle control information associated with the location of the vehicle and vehicle operator, and then arranging the information to provide an indication to the vehicle operator. Such "vehicle control information" may refer to any information that can be used by an operator with respect to a vehicle, and may be provided to the operator, for example, via text information, image information, audio information, dashboard information, and/or HUD information. In the present complaint, Defendant's ride-hailing system and method infringe on these inventive aspects of the '464 patent by, for example, using both passenger and driver applications that communicate such vehicle control information between the passenger and the driver, and vice versa. Here, the Lyft passenger application serves as the controller, while the Lyft driver application serves as the operator, and the requisite information is provided by text, image, and audio, as needed.

19. The '464 patent overcomes shortcomings in the prior art, which required information be presented through traditional signage and traffic signals placed along roads (col. 1, lines 20-21). The prior art is not an effective means to disseminate all kinds of information (col. 1, lines 39-46). Certain of the inventive aspects of the '464 patent addressed the need for improvements in the area of distributing information to the operator of a vehicle, by better facilitating the dissemination of information via a vehicle device (col. 2, lines 1-5). More specifically, the inventive aspects of collecting vehicle control information and distributing the information to the individual vehicle device for a plurality of vehicles (col. 13, lines 55-67), were not well-understood, routine, or conventional at the time of the invention.

United States Patent No. 7,370,085

20. The '085 patent claims a method for providing user location information for a personal information management (PIM) program by generating position coordinates of a wireless device with related time information. Additionally, the '085 patent claims another method for generating a calendar for a PIM program by receiving a time interval and determining position coordinates of a wireless device in order to display a user's activity with the corresponding time. In one embodiment, the '085 patent then determines whether a rate of change in distance between position coordinates at designated times indicates a user's activity during the activity time period, and then generates information on the predefined activity. A PIM client gathers and presents PIM information, such as calendaring and scheduling information, in accordance with the described implementations. A PIM refers to a program designed to allow users to organize random bits of information in a useful format (col. 4, lines 27-33). In the present complaint, Defendant's ride-hailing system and method infringe on these inventive aspects of the '085 patent. For example, Defendant's use of geographical reference data to depict various drivers in the vicinity of a potential passenger on its Lyft application fits one definition of gathering and presenting information on a PIM.

21. The '085 patent overcomes shortcoming in the prior art, which provided users of wireless computing (such as personal information managers) or handheld computers (such as cellular phones) significantly limited versions of programs and functions normally available on desktop computers (col. 1, lines 56-61). Certain of the inventive aspects of the '085 patent addressed the need for an application that could more fully exploit wireless computing technology and extend the utility beyond that of a portable telephone and limited personal information

manager (col. 2, lines 5-10). These aspects were not well-understood, routine, or conventional at the time of the invention.

United States Patent No. 7,958,215

22. The '215 patent claims a number of computer-implemented embodiments for responding to a condition/alert (for example, needing a ride) and managing an information technology device.

a. Claim 1 of the '215 patent claims a method for responding to a problem condition, which automatically detects the availability of the first candidate to respond to the problem condition, responds to the detection, automatically assigns to the first candidate the responsibility for the problem condition, and then receives confirmation that the candidate has accepted responsibility.

b. Claim 5 of the '215 patent claims a method for managing an information technology device, which receives an alert from a device and receives availability information of a plurality of candidates, automatically selects a qualified and available candidate to take responsibility for the alert, and then receives a reply from the candidate indicating acceptance of responsibility.

c. Claim 14 of the '215 patent claims a method for managing an information technology device, which receives an alert from the device, automatically selects a qualified candidate and determines candidates' availability to respond to the alert, automatically sends an instant message to the candidate containing information about the alert, receives a reply from the candidate indicating acceptance of responsibility, and then automatically assigns responsibility for the alert to the candidate.

d. Claim 17 of the '215 patent claims a method for assigning responsibility for responding to a condition in an information technology device, which receives an alert from a

monitored device describing an event in the device, automatically detects an available administrator qualified to respond to the event, automatically sends a first instant message to the available administrator that references the alert and requests acknowledgment, receives a second instant message from the administrator acknowledging the event, and then automatically assigns responsibility for the event to the administrator.

In particular, the '215 patent relates to management methods and systems using real-time collaboration and instant messaging technology (col. 1, lines 5-10). In the present complaint, Defendant's ride-hailing system and method infringe on these inventive aspects of the '215 patent. For example, Defendant monitors alerts/conditions (ride requests) from passengers through the Lyft Application (on a device) and automatically determines the availability of a plurality of drivers (candidates/administrators) to respond to the passenger's request. Once driver location, availability, and qualification (for example, possession of driver's license; vehicle type; vehicle make; vehicle year; passenger rating; driver rating; driver acceptance rating; driver coverage areas; etc.) are determined, the drivers are automatically notified via their Lyft Applications. The drivers respond, and then one driver is automatically assigned to handle the passenger's alert. The Lyft Applications (passenger application to Lyft server to driver application, and vice versa), use real-time collaboration and messaging technology to manage alerts and assignments of responsibility.

23. The '215 patent overcomes shortcomings in the prior art, which failed to properly ensure responses to alerts and conditions in a cost effective and timely fashion (col. 1, lines 24-62). Certain of the inventive aspects of the '215 patent address the need for ensuring and assigning real time responses to alerts and conditions from qualified and available candidates (col.1, lines 65-67, col. 2, lines 1-62). Such method and aspects were not well-understood, routine, or conventional at the time of the invention.

United States Patent No. 9,460,616

24. In one embodiment, the '616 patent claims a system comprising a mobile object server that receives information from a plurality of mobile objects within a geographic space and performs a process associated with each mobile object. A notification is provided if one mobile object has become distanced from a predetermined location or region. The mobile objects may be manned/unmanned automobiles, motorbikes, bicycles, humans having a digital device, airplanes, vessels, drones, or the like (col. 2, lines 41-43). In the present complaint, Defendant's ride-hailing system and method infringe on these inventive aspects of the '616 patent. For example, Defendant monitors its drivers (mobile objects) via its central servers (mobile object server), with each of the plurality of drivers in a geographic area providing information which is received at the Defendant's servers. Such information from the drivers may include information about accidents, obstructions, closures, limitation statuses, or construction on the road. Defendant's servers monitor the progress/location of the driver, and perform a process of updating the navigation information provided to the driver via the Lyft Navigation, Google Maps, or Waze navigation applications, with updated estimated times of arrival based on the speed, current traffic, and other considerations encountered by the Lyft driver.

25. The '616 patent overcomes shortcomings in the prior art, which failed to account for the inherent problem that as the geographic space being handled expands, the number of automobiles and the number of roads increases, thereby increasing the amount of information being sent and received to a level that surpasses the processing capabilities of the server, nor allows different information and services to be provided to each automobile and driver in real time (col. 1, lines 17-25). Certain of the inventive aspects of the '616 patent addressed the need for improvements in managing the geographic space and mobile objects within the geographic space

(col. 27, lines 49-52). These aspects were not well-understood, routine, or conventional at the time of the invention.

The Lyft Application

26. On information and belief, Defendant uses the Lyft network/server in combination with the Lyft rider/passenger application and the Lyft driver application to operate ride-hailing services. For the purposes of this complaint, the term "Lyft app" encompasses all such functionalities and any related Lyft technologies, either commercially available or developed functionally by Lyft.

a. On information and belief, Lyft operates a network/server infrastructure with its riders/passengers and drivers.

b. On information and belief, Lyft operates and provides a Rider application that, among other things, allows Lyft passengers/customers to request a ride. For the purposes of this complaint, passenger application/app and rider application/app, as well as any different, unambiguous iterations, are used interchangeably.

c. On information and belief, Lyft operates and provides a Driver application that, among other things, allows Lyft drivers to accept ride requests and perform related activities. For the purposes of this complaint, driver application/app and any different, unambiguous iterations, are used interchangeably.

COUNT I
PATENT INFRINGEMENT OF THE '004 PATENT

27. Plaintiff Quartz Auto repeats and realleges the above paragraphs, which are incorporated by reference as if fully restated herein.

28. Plaintiff Quartz Auto is the owner of all rights, title, and interest in the '004 patent.

29. Plaintiff Quartz Auto and its predecessors in interest have never licensed to the Defendant under the '004 patent, nor has Plaintiff Quartz Auto otherwise authorized the Defendant to practice any part of the '004 patent.

30. The '004 patent is presumed valid under 35 U.S.C. §282.

31. The '004 patent relates to, among other things, a system and method for implementing proximity or location driven activities.

32. On information and belief, Defendant operates a ride-hailing service that uses a passenger and driver application that collects current location and destination in order to execute a proximity-driven activity.

33. **Direct Infringement:** On information and belief, Defendant has directly infringed and continues to directly infringe, either literally or under the doctrine of equivalents, one or more claims of the '004 patent, including for example (but not limited to) at least method claims 1-11, system claims 12-22, and computer program claims 23-33 of the '004 patent by making, using, distributing, providing, supplying, selling, offering to sell without license or authority Defendant's application that include infringing features. The infringing products include applications that can be used on a variety of mobile computing devices and gather and transmit location-specific information. A detailed infringement claim mapping is provided in paragraphs 37-44 and paragraphs 45-49 below.

34. **Induced Infringement:** On information and belief, Defendant has and continues to promote, advertise, and instruct current drivers and riders, and potential drivers and riders about Lyft products, such as:

(i) Providing Defendant's downloadable applications for Rider (https://www.lyft.com/rider) and Driver (https://www.lyft.com/driver);

(ii) Providing an overview of how to use Lyft's branded products (https://www.lyftbusiness.com), including instructions for riders to use the services (https://help.lyft.com/hc/en-us/categories/115002006488-Riding-with-Lyft); and

(iii) Providing requirements for drivers to sign-up for the service (https://help.lyft.com/hc/en-us/categories/115002009967-Driving-with-Lyft).

Defendant's promotion, advertising, and instruction efforts include, at a minimum, maintenance of its own website http://www.lyft.com/, providing additional driver application requirements and Frequently Asked Questions (FAQs), and other indicia of Lyft branded products (https://www.lyft.com/driver-application-requirements). Defendant's software applications require both the rider and the driver to download the software applications for mobile computing devices, such as smartphones, laptops, and tablets, which enables Lyft to control the actions of both the riders and the drivers to use the infringing features of the products and methods for ride-hailing. On information and belief, Defendant continues to engage in these acts with knowledge of the '004 patent by the filing of this Complaint, and with the actual intent to cause the acts which it knew or should have known would induce actual infringement.

35. Defendant Lyft has infringed the '004 patent by making, having made, using, importing, providing, supplying, distributing, selling, or offering for sale systems utilizing a method for implementing proximity driven activities.

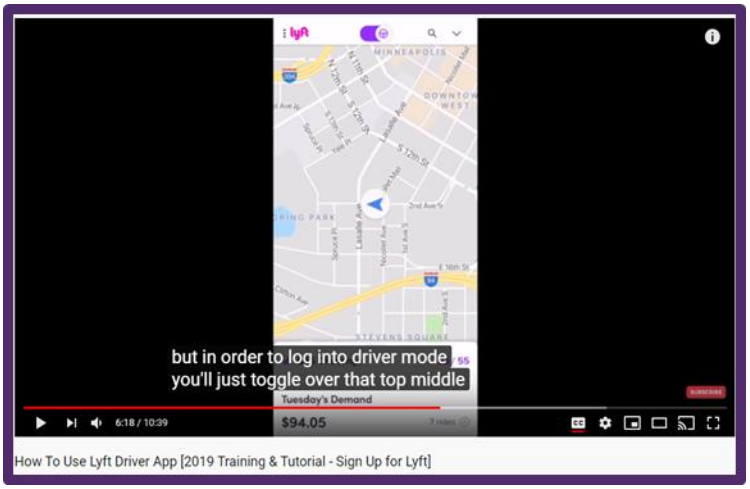
36. **Detailed Mapping of Direct Infringement:** On information and belief, infringement of the '004 patent by these Lyft ride-hailing products and applications is demonstrated below.

37. Method claim 1 of the alleged claims:

1. A method of implementing a proximity driven activity, comprising:
specifying an activity to be executed at an indeterminate destination location;

storing an executable software code corresponding to the activity;
determining a current location of a mobile computing device;
determining whether the destination location is within a predefined proximity range from the current location of the mobile computing device;
executing the executable software code at a time when the destination location is within the proximity range of the mobile computing device; and
transmitting an address of the destination location to the mobile computing device.

38. On information and belief, the Lyft application or Lyft Network, which includes the passenger application, driver application, Lyft server, and all related technology (hereinafter, "Lyft App") performs a method of implementing a proximity driven activity.



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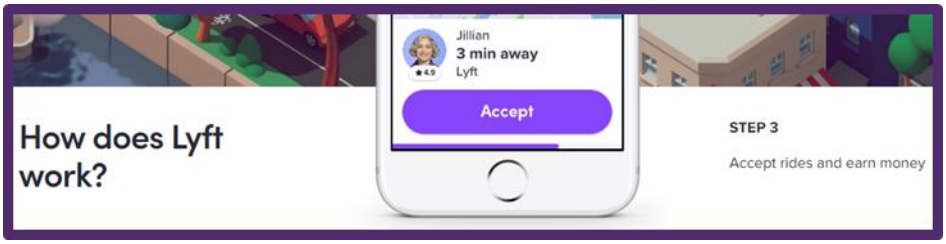
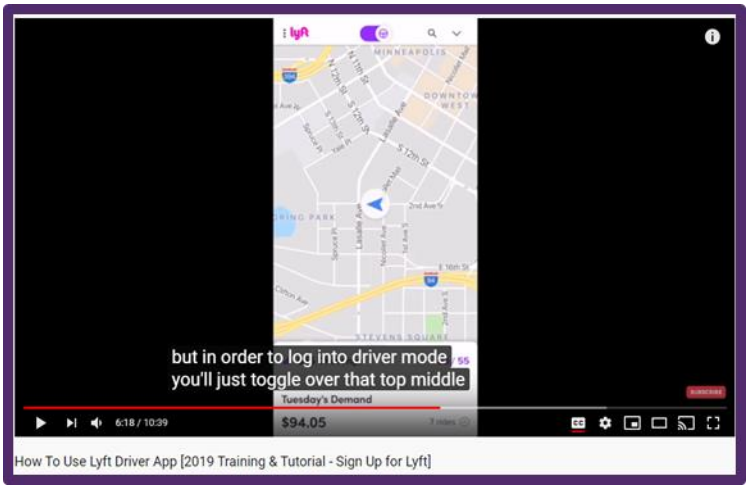


https://www.lyft.com/driver

How drivers and passengers are paired
To keep drivers as busy as possible while also keeping ETAs low for passengers, we generally match passengers with drivers who will arrive soonest. When you drop off a passenger, it's likely that your next request will be close by.

https://www.Lyft.com/newsroom/semi-automated-science-using-an-ai-simulation-framework/

39. On information and belief, the Lyft App specifies an activity to be executed at an indeterminate destination location.



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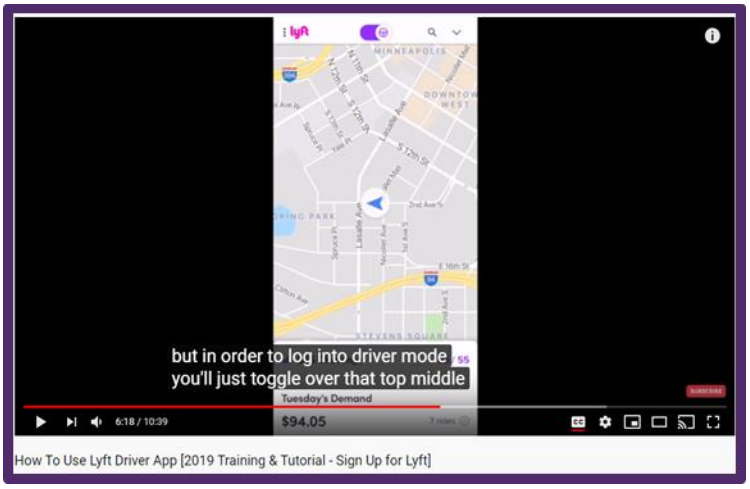
40. On information and belief, the Lyft App stores an executable software code corresponding to the activity.

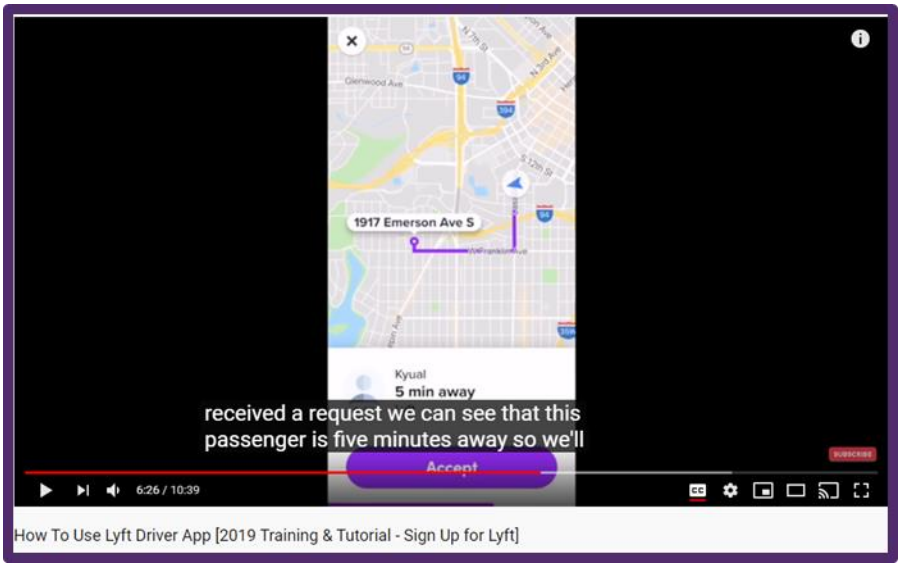


https://www.youtube.com/watch?v=a8n2--HlzDU

How to give a ride
At the top of the screen, slide the steering wheel icon to the right to go online. This lets you receive ride requests. To see what different requests looks like in the app, skip to How rides appear in the app.

https://help.lyft.com/hc/en-us/articles/115013080028#app

41. On information and belief, the Lyft App determines a current location of a mobile computing device.



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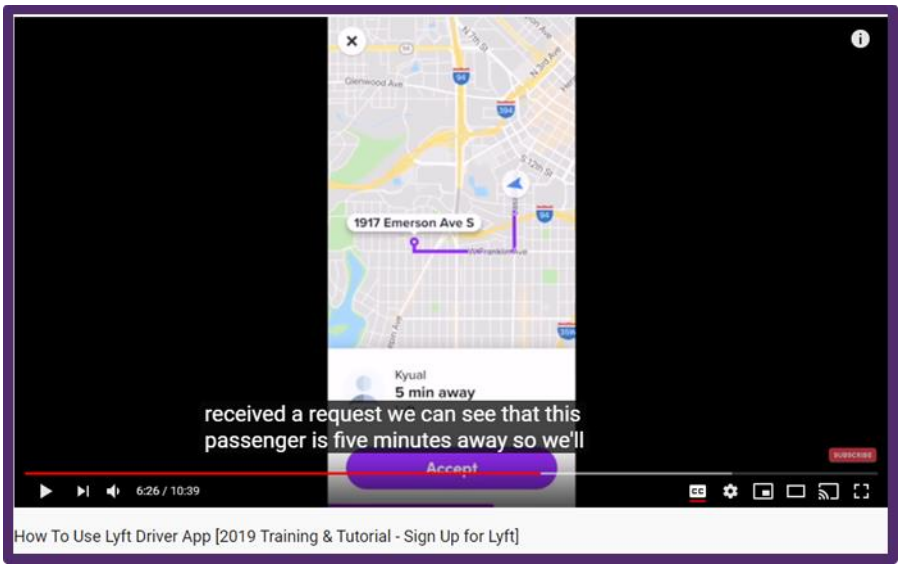
42. On information and belief, the Lyft App determines whether the destination location is within a predefined proximity range from the current location of the mobile computing device.



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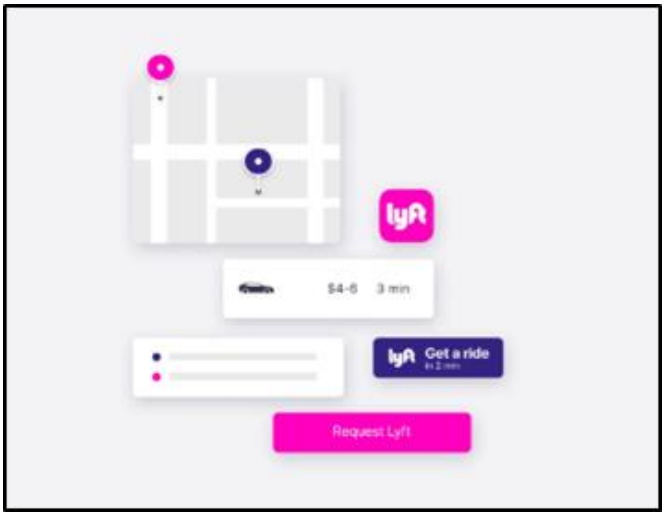
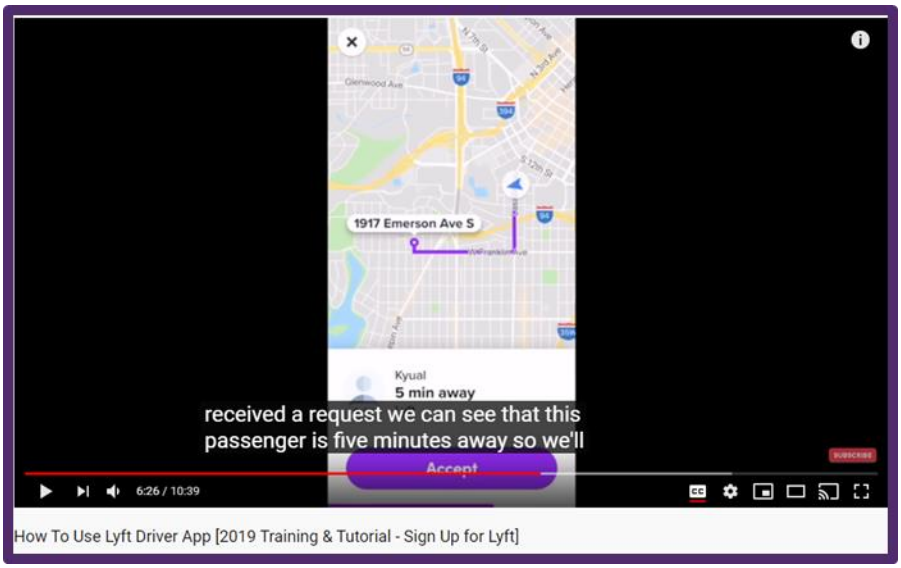


https://www.lyft.com/developers/products/ride-request

43. On information and belief, the Lyft App executes the executable software code at a time when the destination location is within the proximity range of the mobile computing device.



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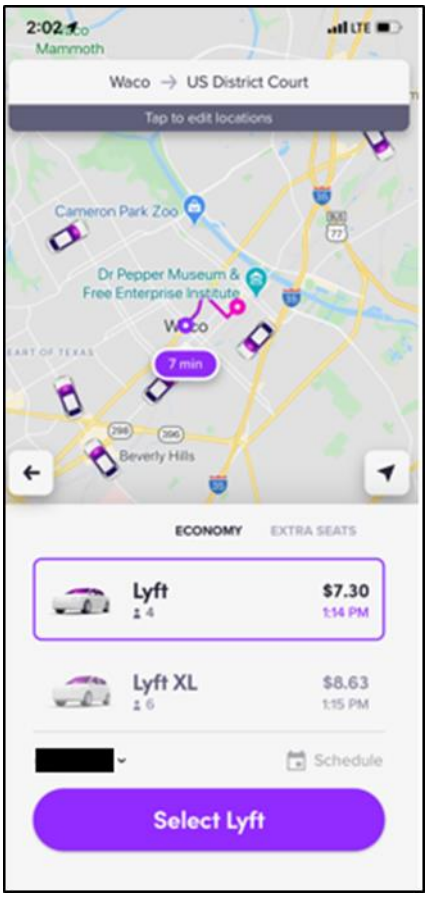
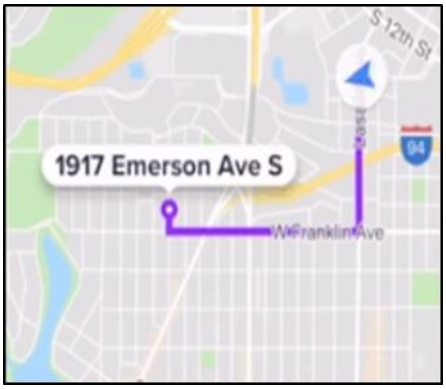


Lyft Passenger Application Screenshot February 25, 2020

44. On information and belief, the Lyft App transmits an address of the destination location to the mobile computing device.



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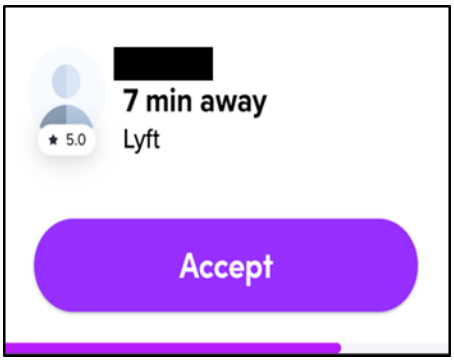
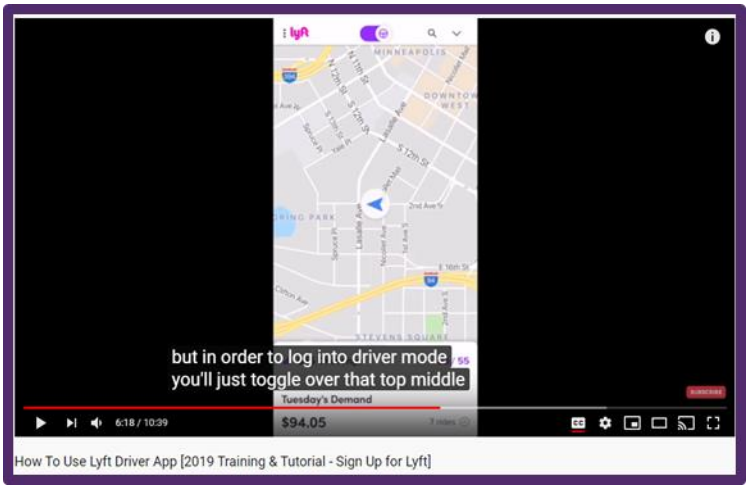


Lyft Driver Application Screenshot February 25, 2020

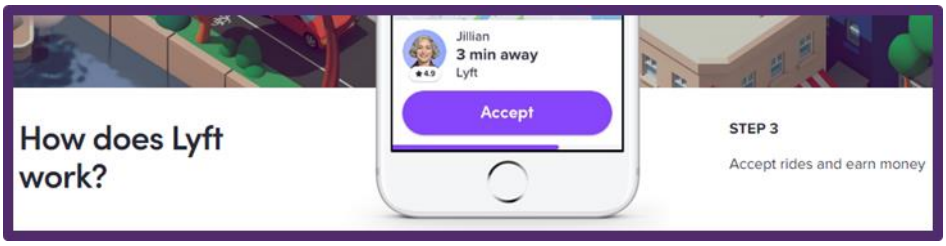
45. System claim 12 of the alleged claims is provided below (and system claim 12 is also taken as representative of breadth of computer program product claim 23):

> 12. A system for implementing a proximity driven activity, comprising:
>
> a calendar module for specifying an activity to be executed at an indeterminate destination location;
>
> a server for storing an executable software code corresponding to the activity and for determining a current location of a mobile computing device; and
>
> the server determining whether the destination location is within a predefined proximity range from the current location of the mobile computing device, and, when the server determines that the destination location is within the proximity range of the mobile computing device, the server executes the executable software code, and transmits an address of the destination location to the mobile computing device.

46. On information and belief, the Lyft application or Lyft Network, which includes the passenger application, driver application, Lyft server, and all related technology (hereinafter, "Lyft App") performs a system of implementing a proximity driven activity.



https://www.youtube.com/watch?v=a8n2--HlzDU

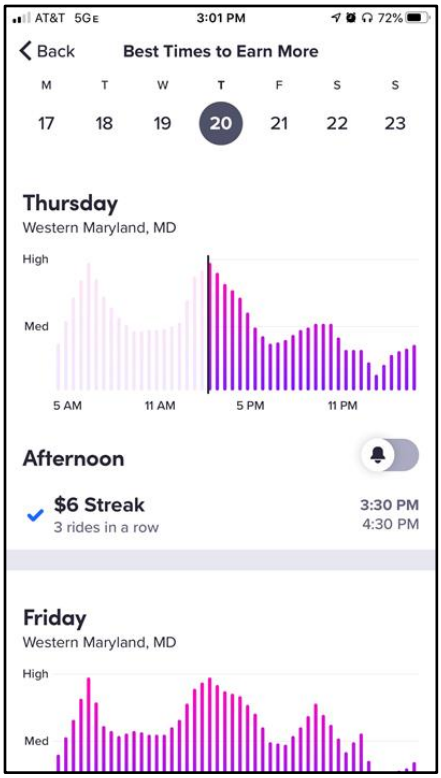


https://www.lyft.com/driver

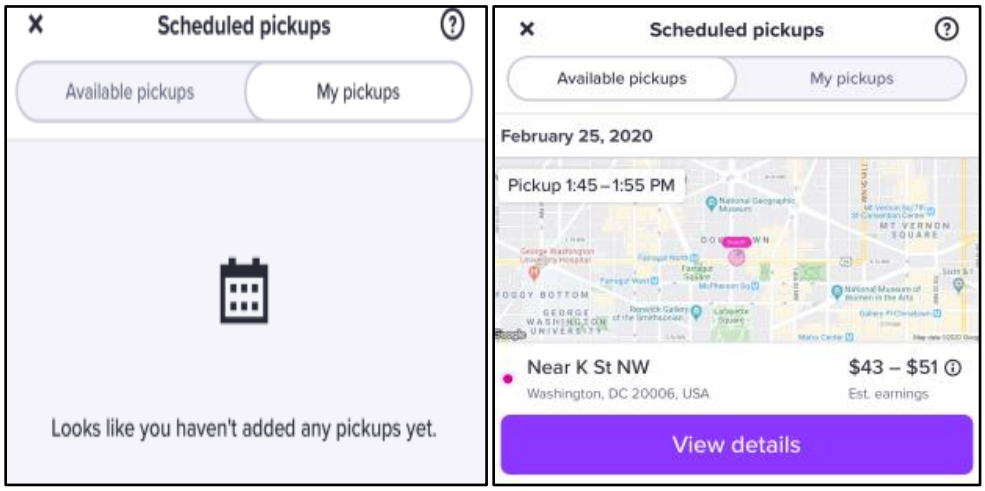
How drivers and passengers are paired
To keep drivers as busy as possible while also keeping ETAs low for passengers, we generally match passengers with drivers who will arrive soonest. When you drop off a passenger, it's likely that your next request will be close by.

https://www.Lyft.com/newsroom/semi-automated-science-using-an-ai-simulation-framework/

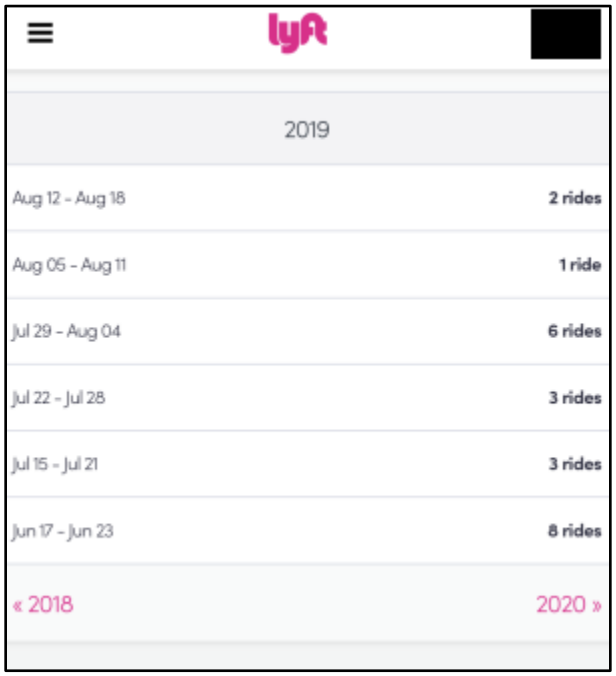
47. On information and belief, the Lyft App uses a calendar module for specifying an activity to be executed at an indeterminate destination location.



Lyft Driver Application Screenshot February 25, 2020



Lyft Driver Application Screenshot February 25, 2020

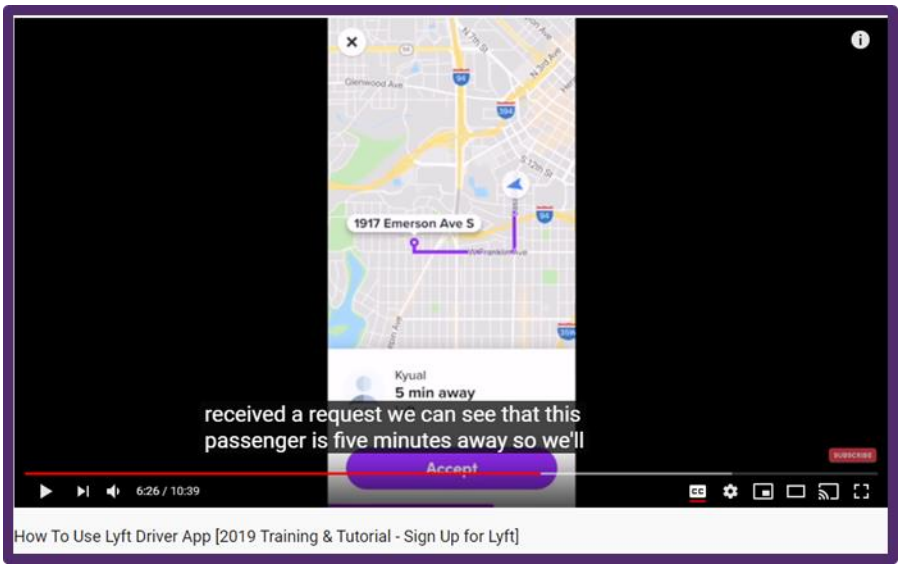


Lyft Driver Application Screenshot February 25, 2020

48. On information and belief, the Lyft App uses a server for storing an executable software code corresponding to the activity and for determining a current location of a mobile computing device.

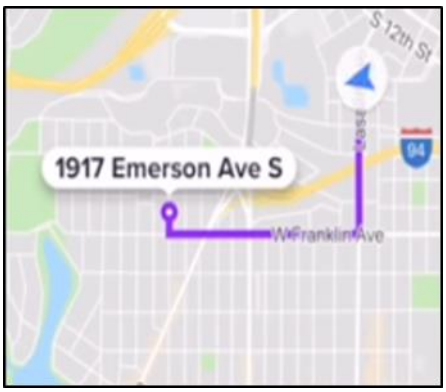
How to give a ride
At the top of the screen, slide the steering wheel icon to the right to go online. This lets you receive ride requests. To see what different requests looks like in the app, skip to How rides appear in the app.

https://help.lyft.com/hc/en-us/articles/115013080028#app



https://www.youtube.com/watch?v=a8n2--HlzDU

49. On information and belief, the Lyft App server determines whether the destination location is within a predefined proximity range from the current location of the mobile computing device, and, when the server determines that the destination location is within the proximity range of the mobile computing device, the server executes the executable software code, and transmits an address of the destination location to the mobile computing device.

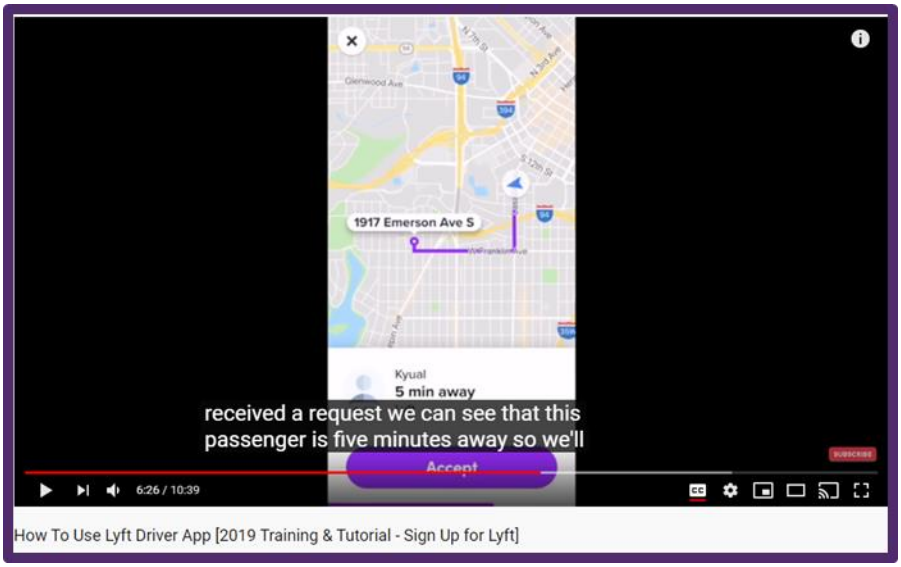


https://www.youtube.com/watch?v=a8n2--HlzDU

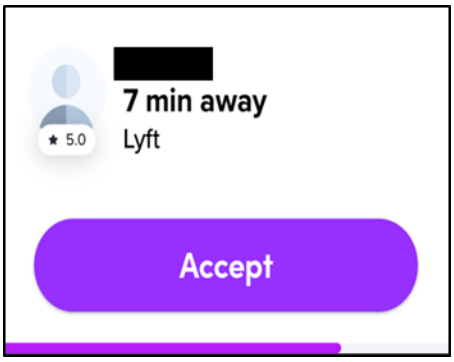
How drivers and passengers are paired

To keep drivers as busy as possible while also keeping ETAs low for passengers, we generally match passengers with drivers who will arrive soonest. When you drop off a passenger, it's likely that your next request will be close by.

https://www.Lyft.com/newsroom/semi-automated-science-using-an-ai-simulation-framework/



https://www.youtube.com/watch?v=a8n2--HlzDU



Lyft Driver Application Screenshot February 25, 2020

50. On information and belief, Defendant's actions have and continue to constitute active inducing infringement of at least method claims 1-11, system claims 12-22, and computer program claims 23-33 of the '004 patent in violation of 35 U.S.C. §271(b).

51. As a result of Defendant's infringement of at least method claims 1-11, system claims 12-22, and computer program claims 23-33 of the '004 patent, Plaintiff Quartz Auto has suffered monetary damages in an amount yet to be determined, and will continue to suffer damages in the future unless Defendant's infringing activities are enjoined by this Court. Defendant is liable to Plaintiff in an amount that adequately compensates for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

52. Defendant's wrongful acts have damaged and will continue to damage Plaintiff Quartz Auto irreparably, and Plaintiff has no adequate remedy at law for those wrongs and injuries. In addition to its actual damages, Plaintiff Quartz Auto is entitled to a permanent injunction restraining and enjoining Defendant and its agents, servants, and employees, and all persons acting thereunder, in concert with, or on its behalf, from infringing at least method claims 1-11, system claims 12-22, and computer program claims 23-33 of the '004 patent.

COUNT II
PATENT INFRINGEMENT OF THE '464 PATENT

53. Plaintiff Quartz Auto repeats and realleges the above paragraphs, which are incorporated by reference as if fully restated herein.

54. Plaintiff Quartz Auto is the owner of all rights, title, and interest in the '464 patent.

55. Plaintiff Quartz Auto and its predecessors in interest have never licensed to the Defendant under the '464 patent, nor has Plaintiff Quartz Auto otherwise authorized the Defendant to practice any part of the '464 patent.

56. The '464 patent is presumed valid under 35 U.S.C. §282.

57. The '464 patent relates to, among other things, systems and methods for distributing information to the operator of a vehicle.

58. On information and belief, Defendant operates a ride-hailing service that uses a passenger and driver application that distributes information to the operator of a vehicle.

59. **Direct Infringement:** On information and belief, Defendant has directly infringed and continues to directly infringe, either literally or under the doctrine of equivalents, one or more claims of the '464 patent, including for example (but not limited to) at least method claims 1-19 and system claims 20-22 of the '464 patent by making, using, distributing, providing, supplying, selling, offering to sell without license or authority Defendant's application that include infringing features. The infringing products include applications that can be used on a variety of remote computing devices and gather and transmit location-specific information. This is without Plaintiff Quartz Auto's authorization, in violation of 35 U.S.C. § 271(a). A detailed infringement claim mapping is provided in paragraphs 64-69 and paragraphs 70-72 below.

60. **Induced Infringement:** On information and belief, Defendant has and continues to promote, advertise, and instruct current drivers and riders, and potential drivers and riders about Lyft products, such as:

(i) Providing Defendant's downloadable applications for Rider (https://www.lyft.com/rider) and Driver (https://www.lyft.com/driver);

(ii) Providing an overview of how to use Lyft's branded products (https://www.lyftbusiness.com), including instructions for riders to use the services (https://help.lyft.com/hc/en-us/categories/115002006488-Riding-with-Lyft); and

(iii) Providing requirements for drivers to sign-up for the service (https://help.lyft.com/hc/en-us/categories/115002009967-Driving-with-Lyft).

Defendant's promotion, advertising, and instruction efforts include, at a minimum, maintenance of its own website http://www.lyft.com/, providing additional driver application requirements and Frequently Asked Questions (FAQs), and other indicia of Lyft branded products (https://www.lyft.com/driver-application-requirements). Defendant's software applications require both the rider and the driver to download the software applications for mobile computing devices, such as smartphones, laptops, and tablets, which enables Lyft to control the actions of both the riders and the drivers to use the infringing features of the products and methods for ride-hailing. On information and belief, Defendant continues to engage in these acts with knowledge of the '464 patent by the filing of this Complaint, and with the actual intent to cause the acts which it knew or should have known would induce actual infringement.

61. Defendant Lyft has infringed the '464 patent by making, having made, using, importing, providing, supplying, distributing, selling, or offering for sale systems utilizing a method for managing data.

62. The ‘464 patent is well known in the industry – having been cited in at least 64 cited patents since its filing date

63. **Detailed Mapping of Direct Infringement:** On information and belief, infringement of the ‘464 patent by these Lyft ride-hailing products and applications is demonstrated below.

64. Method claim 1 of the alleged claims:

1. A method of distributing vehicle control information, comprising:

determining at a controller located at a location vehicle control information associated with the location and with an operator of a vehicle;

transmitting the vehicle control information to a vehicle device;

receiving the vehicle control information at the vehicle device; and

arranging at the vehicle device for an indication to be provided to the operator in accordance with the vehicle control information.

65. On information and belief, the Lyft application or Lyft Network, which includes the passenger application, driver application, Lyft server, and all related technology (hereinafter, “Lyft App”) performs a method of distributing vehicle control information.

> **“The Lyft app**
> To request a Lyft ride, download the Lyft app and create an account. Then:
> 1.In your app, tap ‘Search destination’ and enter your destination
> 2.Tap the correct address from the list provided
> 3.Choose your ride type. You can view additional ride types, such as Shared, Lux, or XL.
> 4.Tap ‘Select Lyft’
> 5.Confirm or change your pickup spot and tap ‘Confirm and request’
> The pickup location will automatically set to your current GPS location.”

https://help.lyft.com/hc/en-us/articles/115013079988-How-to-request-a-ride

66. On information and belief, the Lyft App determines at a controller located at a location vehicle control information associated with the location and with an operator of a vehicle.

> **"The Lyft app**
> To request a Lyft ride, download the Lyft app and create an account. Then:
> 1.In your app, tap 'Search destination' and enter your destination
> 2.Tap the correct address from the list provided
> 3.Choose your ride type. You can view additional ride types, such as Shared, Lux, or XL.
> 4.Tap 'Select Lyft'
> 5.Confirm or change your pickup spot and tap 'Confirm and request'
> The pickup location will automatically set to your current GPS location. To change the pickup location:
> 1.Tap 'Current location' at the top of the screen
> 2.Enter an address or drag the location pin to the right spot
> 3.Tap 'Set pickup.' That's it!"

https://help.lyft.com/hc/en-us/articles/115013079988-How-to-request-a-ride

67. On information and belief, the Lyft App transmits the vehicle control information to a vehicle device.

> "On-demand technology stack of Uber, Lyft, Ola sends notifications to the driver and customers through Push Notification Services, SMS, and Email… There are two apps that operate together, One app is for driver and another app is for the passenger… The instantaneous location of the driver is shared with the passenger in real-time so a driver needs to be online all the time."

https://www.appsrhino.com/lyft-tech-stack-uber/

68. On information and belief, the Lyft App receives the vehicle control information at the vehicle device.

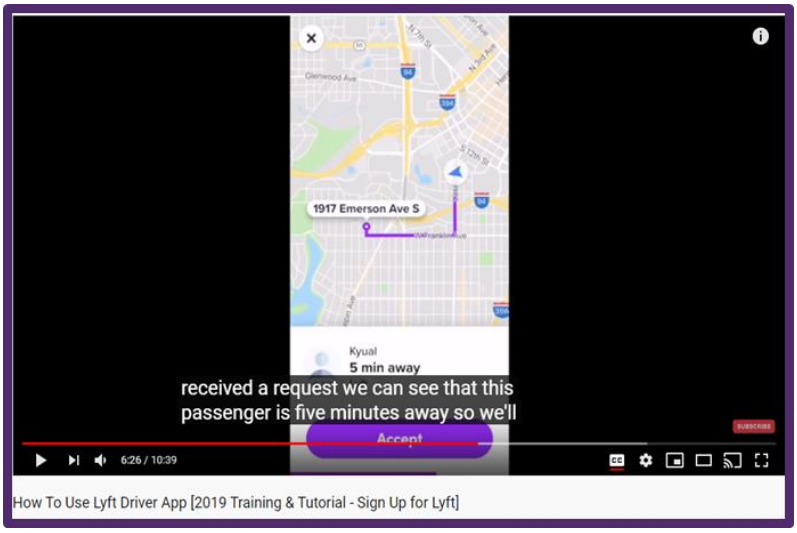
> "On-demand technology stack of Uber, Lyft, Ola sends notifications to the driver and customers through Push Notification Services, SMS, and Email… There are two apps that operate together, One app is for driver and another app is for the passenger… The instantaneous location of the driver is shared with the passenger in real-time so a driver needs to be online all the time."

https://www.appsrhino.com/lyft-tech-stack-uber/

69. On information and belief, the Lyft App arranges at the vehicle device for an indication to be provided to the operator in accordance with the vehicle control information.

> "On-demand technology stack of Uber, Lyft, Ola sends notifications to the driver and customers through Push Notification Services, SMS, and Email…
>
> Send/accept the booking request
> Current location detection
> Direction tracking
> Ride/Fare calculations
> Chat and messaging
> Ride rating and review
> Cancel request – both ways"

https://www.appsrhino.com/lyft-tech-stack-uber/



https://www.youtube.com/watch?v=a8n2--HlzDU&t=10s

70. System claim 20 of the alleged claims:

20. A system, comprising:

a controller located at a location, wherein the controller is adapted to (i) determine vehicle control information associated with the location and with an operator of a vehicle and (ii) transmit the vehicle control information; and

a vehicle device adapted to (i) receive the vehicle control information and (ii) arrange for an indication to be provided to the operator in accordance with the vehicle control information.

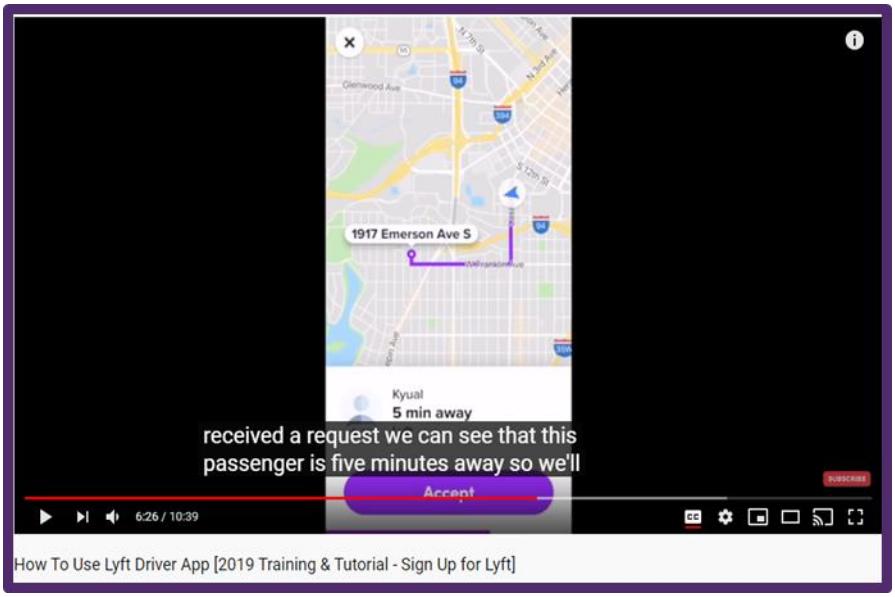
71. On information and belief, the Lyft application or Lyft Network, which includes the passenger application, driver application, Lyft server, and all related technology (hereinafter, "Lyft App") is a system comprising a controller located at a location, wherein the controller is adapted to (i) determine vehicle control information associated with the location and with an operator of a vehicle and (ii) transmit the vehicle control information.

> **"The Lyft app**
> To request a Lyft ride, download the Lyft app and create an account. Then:
> 1.In your app, tap 'Search destination' and enter your destination
> 2.Tap the correct address from the list provided
> 3.Choose your ride type. You can view additional ride types, such as Shared, Lux, or XL.
> 4.Tap 'Select Lyft'
> 5.Confirm or change your pickup spot and tap 'Confirm and request'
> The pickup location will automatically set to your current GPS location."

https://help.lyft.com/hc/en-us/articles/115013079988-How-to-request-a-ride

> "On-demand technology stack of Uber, Lyft, Ola sends notifications to the driver and customers through Push Notification Services, SMS, and Email... There are two apps that operate together, One app is for driver and another app is for the passenger... The instantaneous location of the driver is shared with the passenger in real-time so a driver needs to be online all the time."

https://www.appsrhino.com/lyft-tech-stack-uber/

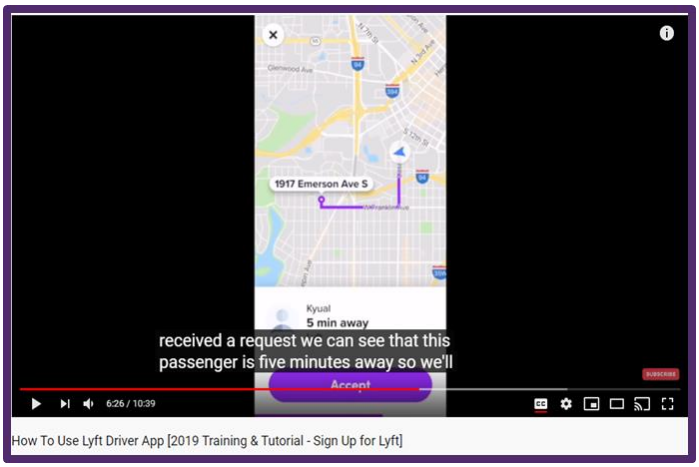


https://www.youtube.com/watch?v=a8n2--HlzDU&t=10s

72. On information and belief, the Lyft App is a system comprising a vehicle device adapted to (i) receive the vehicle control information and (ii) arrange for an indication to be provided to the operator in accordance with the vehicle control information.

> "On-demand technology stack of Uber, Lyft, Ola sends notifications to the driver and customers through Push Notification Services, SMS, and Email... There are two apps that operate together, One app is for driver and another app is for the passenger... The instantaneous location of the driver is shared with the passenger in real-time so a driver needs to be online all the time."

https://www.appsrhino.com/lyft-tech-stack-uber/



https://www.youtube.com/watch?v=a8n2--HlzDU&t=10s

73. On information and belief, Defendant's actions have and continue to constitute active inducing infringement of at least claims 1-19 and 20-22 of the '464 patent in violation of 35 U.S.C. §271(b).

74. As a result of Defendant's infringement of at least claims 1-19 and 20-22 of the '464 patent, Plaintiff Quartz Auto has suffered monetary damages in an amount yet to be determined, and will continue to suffer damages in the future unless Defendant's infringing activities are enjoined by this Court. Defendant is liable to Plaintiff in an amount that adequately compensates for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

75. Defendant's wrongful acts have damaged and will continue to damage Plaintiff Quartz Auto irreparably, and Plaintiff has no adequate remedy at law for those wrongs and injuries. In addition to its actual damages, Plaintiff Quartz Auto is entitled to a permanent injunction restraining and enjoining Defendant and its agents, servants, and employees, and all person acting thereunder, in concert with, or on its behalf, from infringing at least claims 1-19 and 20-22 of the '464 patent.

COUNT III
PATENT INFRINGEMENT OF THE '085 PATENT

76. Plaintiff Quartz Auto repeats and realleges the above paragraphs, which are incorporated by reference as if fully restated herein.

77. Plaintiff Quartz Auto is the owner of all rights, title, and interest in the '085 patent.

78. Plaintiff Quartz Auto and its predecessors in interest have never licensed to the Defendant under the '085 patent, nor has Plaintiff Quartz Auto otherwise authorized the Defendant to practice any part of the '085 patent.

79. The '085 patent is presumed valid under 35 U.S.C. § 282.

80. The '085 patent relates to, among other things, a method, system, and program for providing user location information with a personal information management program. A personal information management program gathers and presents personal information manager information, such as calendaring and scheduling information, allowing users to organize random bits of information in a useful format, including a person's geographic location.

81. On information and belief, Defendant operates a ride-hailing service that uses a passenger and driver application that interacts with a personal information management program, using geographical reference data to depict the various drivers in the vicinity of a potential passenger.

82. **Direct Infringement:** On information and belief, Defendant has directly infringed and continues to directly infringe, either literally or under the doctrine of equivalents, one or more claims of the '085 patent, including for example (but not limited to) at least claims 1-19 and claims 20-23 of the '085 patent by making, using, distributing, providing, supplying, selling, offering to sell, or importing without license or authority, Defendant's application that include infringing features. The infringing products include applications that can be used on a variety of remote

computing devices and gather and transmit location-specific information. Within Lyft, the passenger application generates position coordinates corresponding to the time the Lyft App is opened, connecting with the closest drivers, a list that continually updates until the passenger selects a destination. This is without Plaintiff Quartz Auto's authorization, in violation of 35 U.S.C. §271(a). A detailed infringement claim mapping is provided in paragraphs 87-91 and paragraphs 92-98 below.

83. **Induced Infringement:** On information and belief, Defendant has and continues to promote, advertise, and instruct current drivers and riders, and potential drivers and riders about Lyft products, such as:

(i) Providing Defendant's downloadable applications for Rider (https://www.lyft.com/rider) and Driver (https://www.lyft.com/driver);

(ii) Providing an overview of how to use Lyft's branded products (https://www.lyftbusiness.com), including instructions for riders to use the services (https://help.lyft.com/hc/en-us/categories/115002006488-Riding-with-Lyft); and

(iii) Providing requirements for drivers to sign-up for the service (https://help.lyft.com/hc/en-us/categories/115002009967-Driving-with-Lyft).

Defendant's promotion, advertising, and instruction efforts include, at a minimum, maintenance of its own website http://www.lyft.com/, providing additional driver application requirements and Frequently Asked Questions (FAQs), and other indicia of Lyft branded products (https://www.lyft.com/driver-application-requirements). Defendant's software applications require both the rider and the driver to download the software applications for mobile computing devices, such as smartphones, laptops, and tablets, which enables Lyft to control the actions of both the riders and the drivers to use the infringing features of the products and methods for ride-

hailing. On information and belief, Defendant continues to engage in these acts with knowledge of the '085 patent by the filing of this Complaint, and with the actual intent to cause the acts which it knew or should have known would induce actual infringement.

84. Defendant Lyft has infringed the '085 patent by making, having made, using, importing, providing, supplying, distributing, selling, or offering for sale systems utilizing a method for providing location information.

85. The '085 patent is well known in the industry – having been cited in at least 37 cited patents since its filing date

86. **Detailed Mapping of Direct Infringement:** On information and belief, infringement of the '085 patent by these Lyft ride-hailing products and applications is demonstrated below.

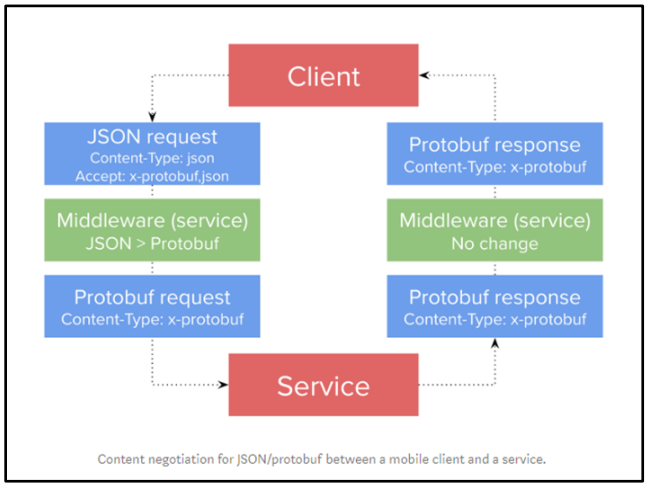
87. Claim 1 of the alleged claims:

> 1. A method for providing user location information for a personal information management program, comprising:
>
> generating position coordinates of a wireless device and time information indicating times when the position coordinates were generated, wherein a user is associated with the wireless device;
>
> processing the position coordinates and time information to determine whether a rate of change in distance per unit of time in a series of position coordinates at times indicates a predefined activity of the user occurring during an activity time period during which the position coordinates and the time information were generated; and
>
> generating information on the determined predefined activity for the activity time period.

88. On information and belief, the Lyft application or Lyft Network, which includes the passenger application, driver application, Lyft server, and all related technology (hereinafter, "Lyft App") performs a method for providing user location information for a personal information management program.

> "We leverage Lyft vehicle telemetry data collected for forty days in the summer of 2018 in San Francisco and Palo Alto, collected from smartphones. Each data point contains the *latitude, longitude, accuracy, speed* and *bearing*. A future iteration of this work could make use of more features like *acceleration, gyroscope*, and *timestamp*."

http://urban.cs.wpi.edu/urbcomp2019/file/Urbcomp_2019_paper_12.pdf

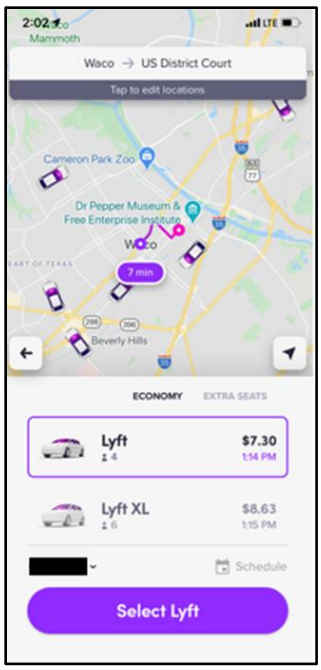


https://eng.lyft.com/lyfts-journey-through-mobile-networking-d8e13c938166

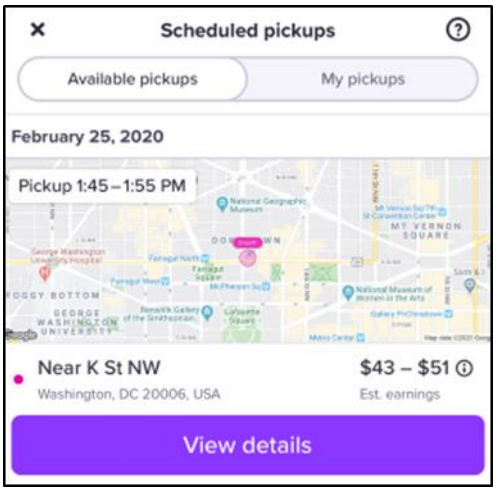
89. On information and belief, the Lyft App generates position coordinates of a wireless device and time information indicating times when the position coordinates were generated, wherein a user is associated with the wireless device.

> "We leverage Lyft vehicle telemetry data collected for forty days in the summer of 2018 in San Francisco and Palo Alto, collected from smartphones. Each data point contains the *latitude, longitude, accuracy, speed* and *bearing*. A future iteration of this work could make use of more features like *acceleration, gyroscope*, and *timestamp*."

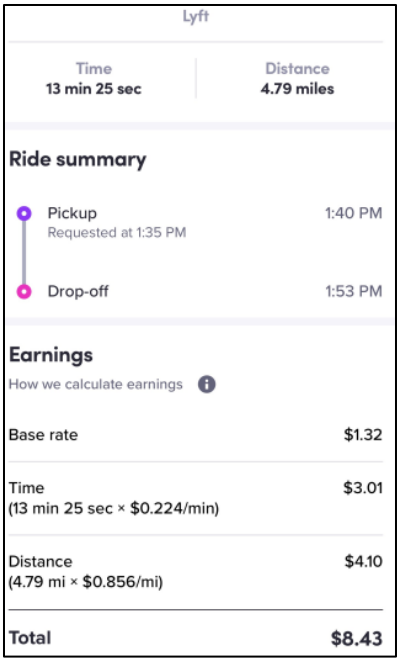
http://urban.cs.wpi.edu/urbcomp2019/file/Urbcomp_2019_paper_12.pdf



Lyft Passenger Application Screenshot February 9, 2020



Lyft Driver Application Screenshot February 25, 2020



Lyft Driver Application Screenshot February 25, 2020

90. On information and belief, the Lyft App processes the position coordinates and time information to determine whether a rate of change in distance per unit of time in a series of position coordinates at times indicates a predefined activity of the user occurring during an activity time period during which the position coordinates and the time information were generated.

Why does Lyft care about Traffic Control Elements?
For Lyft, having high accuracy and coverage of traffic control elements in our internal map is valuable for multiple reasons:
a) **More accurate route ETAs**: We can **add a time penalty** to go from one road segment to the next if there is a traffic control element.
b) **Dispatch**: We can improve driver position prediction, which can help improve market decisions.
c) **Autonomous vehicles**: With more TCEs, our autonomous driving team, L5, can plan the behavior of vehicles on the road more efficiently and reliably.

https://eng.lyft.com/detecting-stop-signs-and-traffic-signals-deep-learning-at-lyft-mapping-75bac609c231/

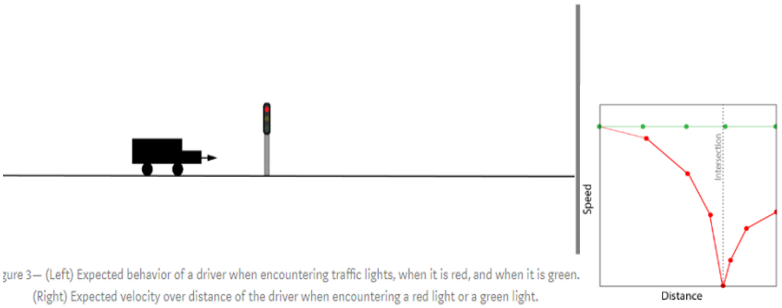
We noticed that as drivers approach stop signs and traffic signals, they have different speed patterns.

Stop Signs

igure 1: (Left) Expected behavior of a driver when encountering a stop sign. (Right) Expected velocity over distance of the driver when encountering a stop sign.

https://eng.lyft.com/detecting-stop-signs-and-traffic-signals-deep-learning-at-lyft-mapping-75bac609c231/

Traffic Signals



gure 3— (Left) Expected behavior of a driver when encountering traffic lights, when it is red, and when it is green. (Right) Expected velocity over distance of the driver when encountering a red light or a green light.

https://eng.lyft.com/detecting-stop-signs-and-traffic-signals-deep-learning-at-lyft-mapping-75bac609c231/

> "We found two main driver patterns for traffic signals:
> When a driver first sees a red light, they slow down and stop in front of the traffic light. When the green light is activated, the driver accelerates again. This behavior is very similar to the stop sign case, as shown by the red stroke in the diagram on the right of Fig. 3. We may nevertheless expect that the stopping time in front of the traffic signal may be longer than the stop sign case.
> When the driver only sees a green light, the driver usually keeps near constant speed, as shown by the green stroke in the diagram on the right of Fig. 3."

https://eng.lyft.com/detecting-stop-signs-and-traffic-signals-deep-learning-at-lyft-mapping-75bac609c231/

91. On information and belief, the Lyft App generates information on the determined predefined activity for the activity time period.

"What is the role of the mapping team?
These technical challenges require a team with a strong geospatial expertise. Lyft's mapping team provides a rich, fresh, and accurate model of the physical world, and how our users move around within it. We enable:
•Generating optimal and infer probable routes of drivers to passengers
•Making accurate time and distance prediction
•Localizing drivers, passengers and vehicles
•Building a knowledge base of physical places
•Inferring map features"

https://eng.lyft.com/how-lyft-creates-hyper-accurate-maps-from-open-source-maps-and-real-time-data-8dcf9abdd46a

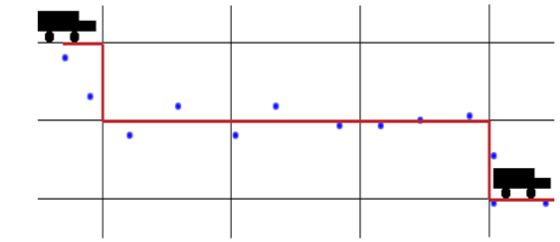


Fig. 2 — The road network is represented as black lines. The blue dots are the sequence of GPS locations emitted by the driver's smartphone. A traditional map matching algorithm [2] in red, leverages our knowledge of the road network and accurately compute the trajectory of the driver.

"At Lyft, mapmaking and map quality assessment is central to our business."

https://eng.lyft.com/how-lyft-creates-hyper-accurate-maps-from-open-source-maps-and-real-time-data-8dcf9abdd46a

Predicting when someone needs help

Coming soon: In some cases, if we notice your ride has stopped too soon or for an unusual amount of time, drivers and riders will hear from Lyft. We'll ask if you need support, and if necessary, we'll give you the option to request emergency assistance.

https://www.lyft.com/safety/rider

92. Claim 20 of the alleged claims:

20. A method for generating a calendar for a personal information management, program, comprising:

receiving selection of a time interval;

for the selected time interval, determining position coordinates of a wireless device and time information indicating times when the position coordinates were generated, wherein a user is associated with the wireless device;

processing the position coordinates and time information during the selected time interval to determine whether a rate of change in distance per unit of time in a series of the position coordinates at times during the selected time interval indicates a predefined activity of the user occurring during the selected time interval;

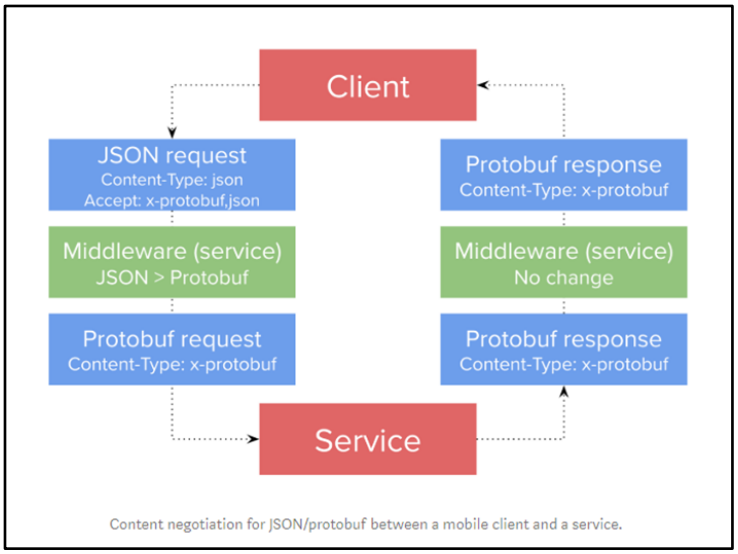
generating information on the predefined activity within the selected time interval; and

displaying information on the predefined activity of the user and the selected time interval.

93. On information and belief, the Lyft application or Lyft Network, which includes the passenger application, driver application, Lyft server, and all related technology (hereinafter, "Lyft App") performs a method for generating a calendar for a personal information management, program.

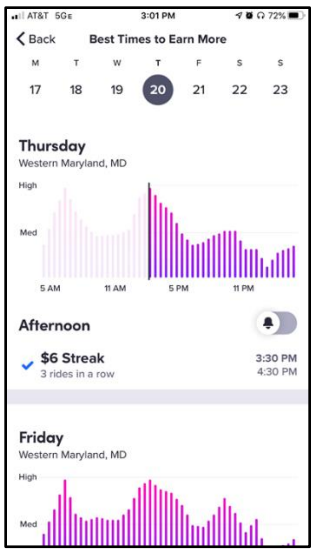
> "We leverage Lyft vehicle telemetry data collected for forty days in the summer of 2018 in San Francisco and Palo Alto, collected from smartphones. Each data point contains the *latitude, longitude, accuracy, speed* and *bearing*. A future iteration of this work could make use of more features like *acceleration, gyroscope*, and *timestamp*."

http://urban.cs.wpi.edu/urbcomp2019/file/Urbcomp_2019_paper_12.pdf

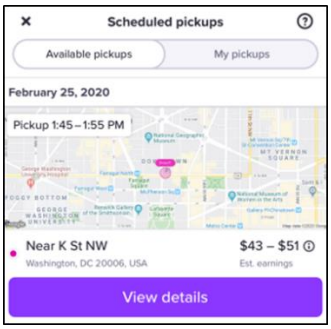


https://eng.lyft.com/lyfts-journey-through-mobile-networking-d8e13c938166

94. On information and belief, the Lyft App receives selection of a time interval.



Lyft Driver Application Screenshot February 25, 2020



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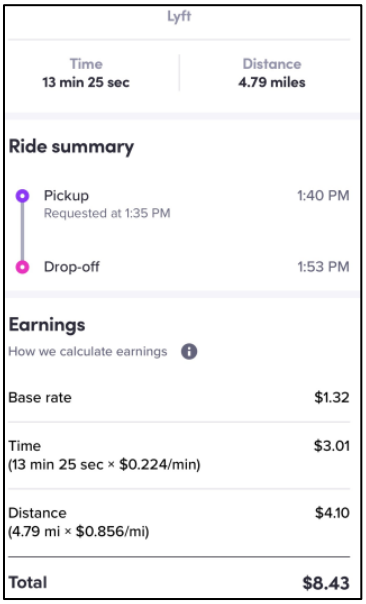

Lyft Driver Application Screenshot February 25, 2020

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http://urban.cs.wpi.edu/urbcomp2019/file/Urbcomp_2019_paper_12.pdf

95. On information and belief, the Lyft App determines position coordinates of a wireless device and time information indicating times when the position coordinates were generated, wherein a user is associated with the wireless device, for the selected time interval.

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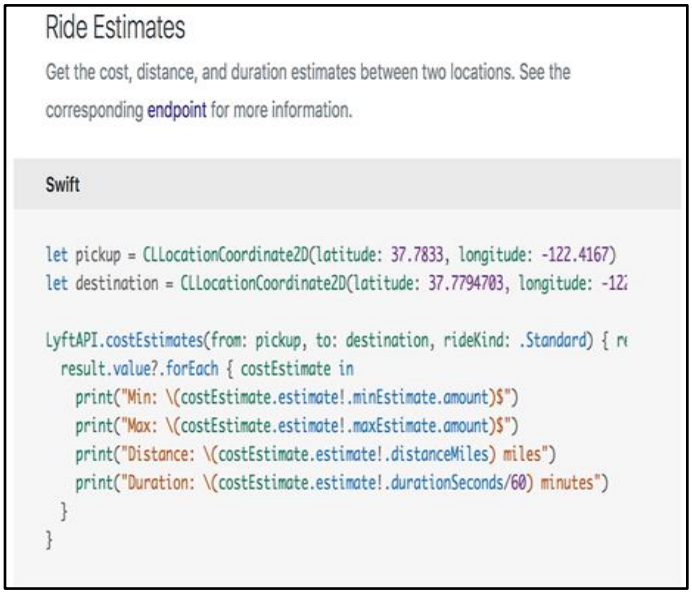


Ride Estimates

Get the cost, distance, and duration estimates between two locations. See the corresponding endpoint for more information.

Swift

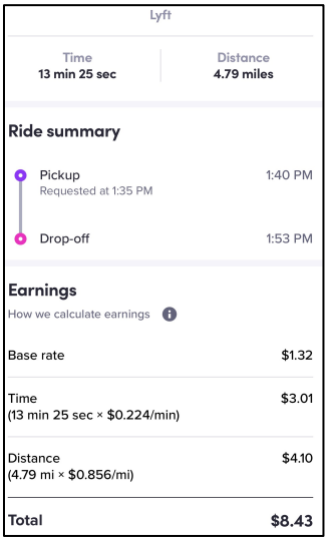
```
let pickup = CLLocationCoordinate2D(latitude: 37.7833, longitude: -122.4167)
let destination = CLLocationCoordinate2D(latitude: 37.7794703, longitude: -12

LyftAPI.costEstimates(from: pickup, to: destination, rideKind: .Standard) { r
  result.value?.forEach { costEstimate in
    print("Min: \(costEstimate.estimate!.minEstimate.amount)$")
    print("Max: \(costEstimate.estimate!.maxEstimate.amount)$")
    print("Distance: \(costEstimate.estimate!.distanceMiles) miles")
    print("Duration: \(costEstimate.estimate!.durationSeconds/60) minutes")
  }
}
```

https://developer.lyft.com/docs/ios

96. On information and belief, the Lyft App processes the position coordinates and time information during the selected time interval to determine whether a rate of change in distance per

unit of time in a series of the position coordinates at times during the selected time interval indicates a predefined activity of the user occurring during the selected time interval.



Lyft Driver Application Screenshot February 25, 2020

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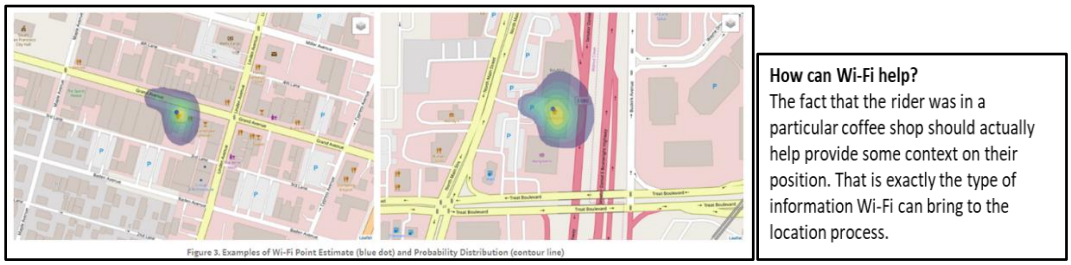
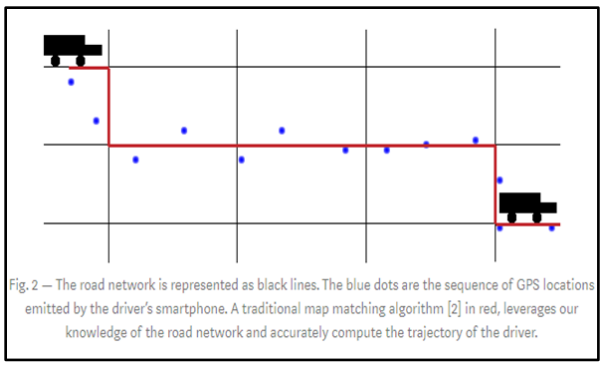


https://eng.lyft.com/sensor-data-in-localization-wi-fi-329ea84db959



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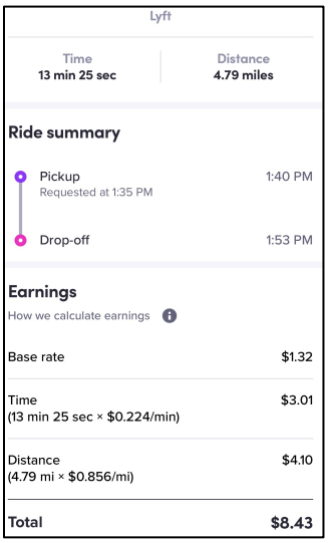
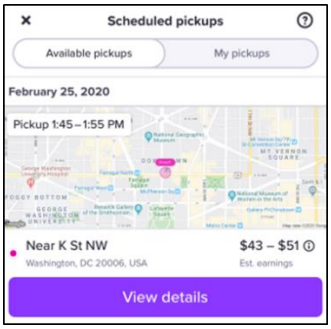
97. On information and belief, the Lyft App generates information on the predefined activity within the selected time interval.



Lyft Driver Application Screenshot February 25, 2020

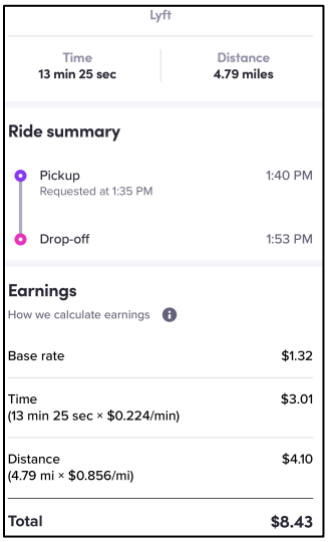
Driver ETA Get driver estimated time of arrival for a location. See the corresponding endpoint for more information.	**Ride Estimates** Get cost, distance, and duration estimates between two locations. See the corresponding endpoint for more information.

https://developer.lyft.com/docs/android-api-wrappers



Lyft Driver Application Screenshot February 25, 2020

98. On information and belief, the Lyft App displays information on the predefined activity of the user and the selected time interval.



Lyft Driver Application Screenshot February 25, 2020

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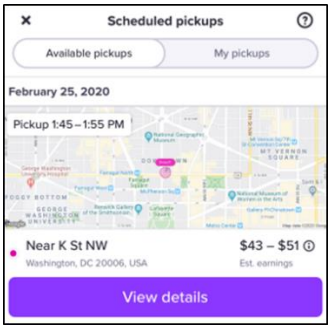


Lyft Driver Application Screenshot February 25, 2020

99. On information and belief, Defendant's actions have and continue to constitute active inducing infringement of at least claims 1-19 and 20-23 of the '085 patent in violation of 35 U.S.C. §271(b).

100. As a result of Defendant's infringement of at least claims 1-19 and 20-23 of the '085 patent, Plaintiff Quartz Auto has suffered monetary damages in an amount yet to be determined, and will continue to suffer damages in the future unless Defendant's infringing activities are enjoined by this Court. Defendant is liable to Plaintiff in an amount that adequately compensates for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

101. Defendant's wrongful acts have damaged and will continue to damage Plaintiff Quartz Auto irreparably, and Plaintiff has no adequate remedy at law for those wrongs and injuries. In addition to its actual damages, Plaintiff Quartz Auto is entitled to a permanent injunction restraining and enjoining Defendant and its agents, servants, and employees, and all person acting thereunder, in concert with, or on its behalf, from infringing at least claims 1-19 and 20-23 of the '085 patent.

COUNT IV
PATENT INFRINGEMENT OF THE '215 PATENT

102. Plaintiff Quartz Auto repeats and realleges the above paragraphs, which are incorporated by reference as if fully restated herein.

103. Plaintiff Quartz Auto is the owner of all rights, title, and interest in the '215 patent.

104. Plaintiff Quartz Auto and its predecessors in interest have never licensed to Defendant under the '215 patent, nor has Plaintiff Quartz Auto otherwise authorized the Defendant to practice any part of the '215 patent.

105. The '215 patent is presumed valid under 35 U.S.C. § 282.

106. The '215 patent relates to, among other things, system management using real time collaboration.

107. On information and belief, Defendant operates a ride-hailing service that uses a passenger application, driver application, and server that collaborate in real time.

108. **Direct Infringement:** On information and belief, Defendant has directly infringed and continues to directly infringe, either literally or under the doctrine of equivalents, one or more claims of the '215 patent, including for example (but not limited to) at least computer implemented method claims 1-4, computer implemented method claims 5-13, computer implemented method claims 14-16, and computer implemented method claim 17 of the '215 patent by making, using, distributing, providing, supplying, selling, offering to sell, or importing without license or authority, Defendant's application that include infringing features. The infringing products includes applications that respond to alerts made by the passenger (e.g., requesting a Lyft) by automatically detecting available nearby drivers and assigning responsibility of passenger's alert to a driver (e.g., accepting the passenger's request for a Lyft). This is without Plaintiff Quartz Auto's authorization, in violation of 35 U.S.C. §271(a). A detailed infringement claim mapping is provided in paragraphs 112-117, paragraphs 118-124, paragraphs 125-132, and paragraphs 133-139 below.

109. **Induced Infringement:** On information and belief, Defendant has and continues to promote, advertise, and instruct current drivers and riders, and potential drivers and riders about Lyft products, such as:

(i) Providing Defendant's downloadable applications for Rider (https://www.lyft.com/rider) and Driver (https://www.lyft.com/driver);

(ii) Providing an overview of how to use Lyft's branded products (https://www.lyftbusiness.com), including instructions for riders to use the services (https://help.lyft.com/hc/en-us/categories/115002006488-Riding-with-Lyft); and

(iii) Providing requirements for drivers to sign-up for the service (https://help.lyft.com/hc/en-us/categories/115002009967-Driving-with-Lyft).

Defendant's promotion, advertising, and instruction efforts include, at a minimum, maintenance of its own website http://www.lyft.com/, providing additional driver application requirements and Frequently Asked Questions (FAQs), and other indicia of Lyft branded products (https://www.lyft.com/driver-application-requirements). Defendant's software applications require both the rider and the driver to download the software applications for mobile computing devices, such as smartphones, laptops, and tablets, which enables Lyft to control the actions of both the riders and the drivers to use the infringing features of the products and methods for ride-hailing. On information and belief, Defendant continues to engage in these acts with knowledge of the '215 patent by the filing of this Complaint, and with the actual intent to cause the acts which it knew or should have known would induce actual infringement.

110. Defendant Lyft has infringed the '215 patent by making, having made, using, importing, providing, supplying, distributing, selling, or offering for sale systems utilizing a method and system for tracking mobile objects.

111. **Detailed Mapping of Direct Infringement:** On information and belief, infringement of the '215 patent by these Lyft ride-hailing products and applications is demonstrated below.

112. Computer implemented method claim 1 is below:

1. A computer-implemented method of responding to a problem condition, comprising:
automatically detecting availability of a first candidate to respond to a problem condition;
responsive to the detecting:
automatically assigning responsibility for the problem condition to the first candidate; and
receiving a confirmation from the first candidate indicating acceptance of responsibility for the problem condition.

113. On information and belief, the Lyft application or Lyft Network, which includes the passenger application, driver application, Lyft server, and all related technology (hereinafter, "Lyft App") is a computer implemented method of responding to a problem condition.

"To request a Lyft ride, download the Lyft app and create an account. Then:

In your app, tap 'Search destination' and enter your destination
Tap the correct address from the list provided
Choose your ride type. You can view additional ride types, such as Shared, Lux, or XL.
Tap 'Select Lyft'
Confirm or change your pickup spot and tap 'Confirm and request'
The pickup location will automatically set to your current GPS location. To change the pickup location:

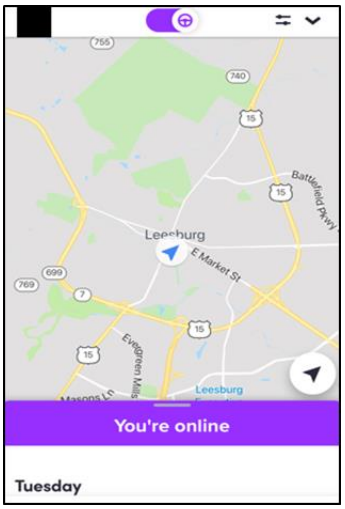
Tap 'Current location' at the top of the screen
Enter an address or drag the location pin to the right spot
Tap 'Set pickup.' That's it!"

https://help.lyft.com/hc/en-us/articles/115013079988-How-to-request-a-ride

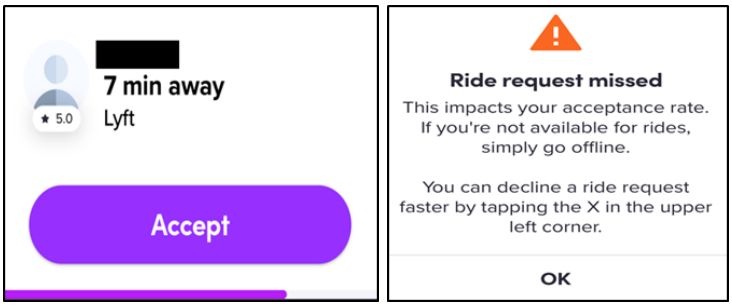
Ride Requests leverage Lyft's driver and passenger networks to transport your users with a smile. Your users authenticate and pay with Lyft through a range of integrations, from a simple deeplink to a full-fledged API.

https://www.lyft.com/developers/products/ride-request

114. On information and belief, the Lyft App automatically detects availability of a first candidate to respond to a problem condition.



Lyft Driver Application Screenshot February 25, 2020



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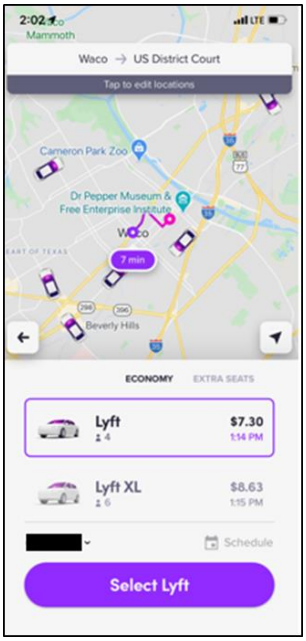
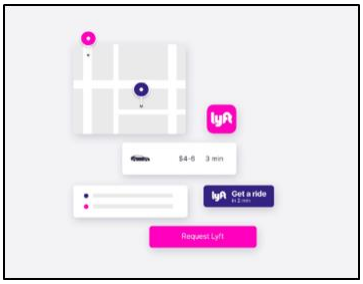


Lyft Passenger Application Screenshot February 9, 2020



https://www.lyft.com/developers/products/ride-request

"How drivers and passengers are paired
To keep drivers as busy as possible while also keeping ETAs low for passengers, we generally match passengers with drivers who will arrive soonest. When you drop off a passenger, it's likely that your next request will be close by.

We also take driver and passenger preferences in account, like if a driver is currently in destination mode or if either person has ever rated the other three stars or below."

https://help.lyft.com/hc/en-us/articles/115012926847-How-drivers-and-passengers-are-paired

115. On information and belief, the Lyft App is responsive to the detecting.

"To request a Lyft ride, download the Lyft app and create an account. Then:

In your app, tap 'Search destination' and enter your destination
Tap the correct address from the list provided
Choose your ride type. You can view additional ride types, such as Shared, Lux, or XL.
Tap 'Select Lyft'
Confirm or change your pickup spot and tap 'Confirm and request'
The pickup location will automatically set to your current GPS location. To change the pickup location:

Tap 'Current location' at the top of the screen
Enter an address or drag the location pin to the right spot
Tap 'Set pickup.' That's it!"

https://help.lyft.com/hc/en-us/articles/115013079988-How-to-request-a-ride

"How to give a ride
At the top of the screen, slide the steering wheel icon to the right to go online. This lets you receive ride requests. To see what different requests looks like in the app, skip to How rides appear in the app.

Once you're online, follow these steps:

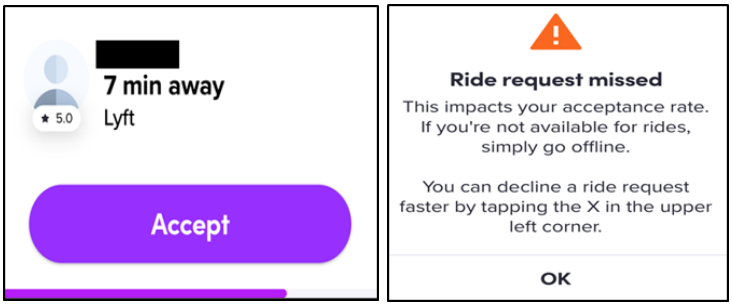
When you get a ride request, you'll see a notification with the passenger's name, pickup ETA, and ride type. Tap anywhere to accept.
Tap the arrow next to the pickup location
Select 'Tap to arrive' when you're at the pickup location. Tap 'Confirm arrival' to send the rider a text (if we haven't already).
Tap 'Pick up (passenger's name)' when the rider gets in to start the ride
Tap 'Navigate' to begin navigation, then drive the rider to their destination
Tap 'Tap to drop off' when you arrive at the drop-off location, then tap 'Confirm drop off' to end the ride
Tap the star icon to rate the passenger manually, or let the timer finish to auto-rate the passenger 5 stars. That's it!

https://help.lyft.com/hc/en-us/articles/115013080028-How-to-give-a-Lyft-ride

"Important info about giving rides
There are a few more things about giving rides. Read below to learn about cancellations, no-shows, time limits, and other info.

You have 15 seconds to accept a ride. If you don't accept in this time, we'll offer the ride to another driver. . ."

https://help.lyft.com/hc/en-us/articles/115013080028-How-to-give-a-Lyft-ride



Lyft Driver Application Screenshot February 25, 2020

116. On information and belief, the Lyft App automatically assigns responsibility for the problem condition to the first candidate.

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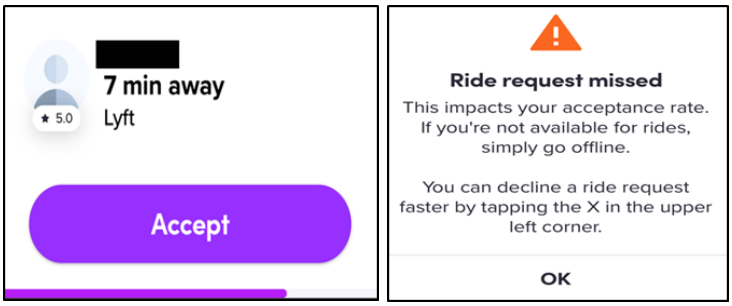

Lyft Driver Application Screenshot February 25, 2020

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> We also take driver and passenger preferences in account, like if a driver is currently in destination mode or if either person has ever rated the other three stars or below."

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117. On information and belief, the Lyft App receives a confirmation from the first candidate indicating acceptance of responsibility for the problem condition.

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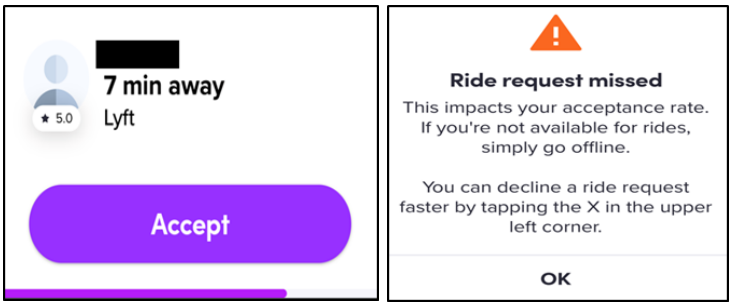


Lyft Driver Application Screenshot February 25, 2020

118. Computer implanted method claim 5 is below:

5. A computer-implemented method of managing an information technology device, comprising:

receiving an alert from a managed information technology device;

receiving availability information about a plurality of candidates;

automatically selecting a candidate qualified and available to respond to the event from among the plurality of candidates;

automatically assigning responsibility for the alert to the candidate; and

receiving a reply from the candidate indicating acceptance of responsibility for the alert.

119. On information and belief, the Lyft application or Lyft Network, which includes the passenger application, driver application, Lyft server, and all related technology (hereinafter, "Lyft App") is a computer implemented method of managing an information technology device.

"To request a Lyft ride, download the Lyft app and create an account. Then:

In your app, tap 'Search destination' and enter your destination
Tap the correct address from the list provided
Choose your ride type. You can view additional ride types, such as Shared, Lux, or XL.
Tap 'Select Lyft'
Confirm or change your pickup spot and tap 'Confirm and request'
The pickup location will automatically set to your current GPS location. To change the pickup location:

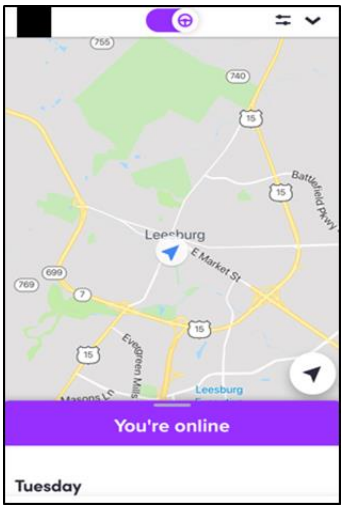
Tap 'Current location' at the top of the screen
Enter an address or drag the location pin to the right spot
Tap 'Set pickup.' That's it!"

https://help.lyft.com/hc/en-us/articles/115013079988-How-to-request-a-ride

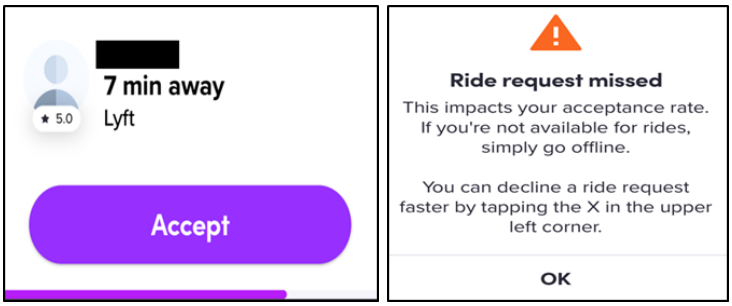
Ride Requests leverage Lyft's driver and passenger networks to transport your users with a smile. Your users authenticate and pay with Lyft through a range of integrations, from a simple deeplink to a full-fledged API.

https://www.lyft.com/developers/products/ride-request

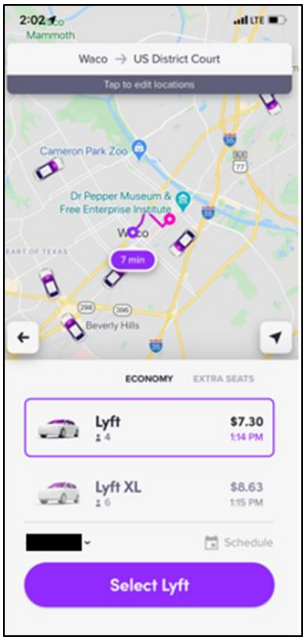
120. On information and belief, the Lyft App receives an alert from a managed information technology device.



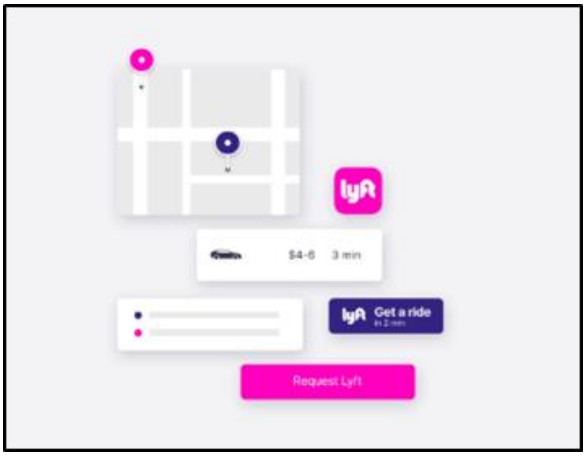
Lyft Driver Application Screenshot February 25, 2020



Lyft Driver Application Screenshot February 25, 2020



Lyft Passenger Application Screenshot February 9, 2020



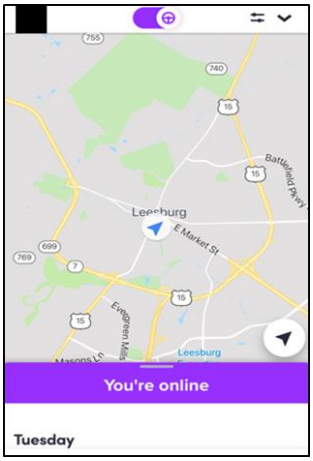
https://www.lyft.com/developers/products/ride-request

"How drivers and passengers are paired
To keep drivers as busy as possible while also keeping ETAs low for passengers, we generally match passengers with drivers who will arrive soonest. When you drop off a passenger, it's likely that your next request will be close by.

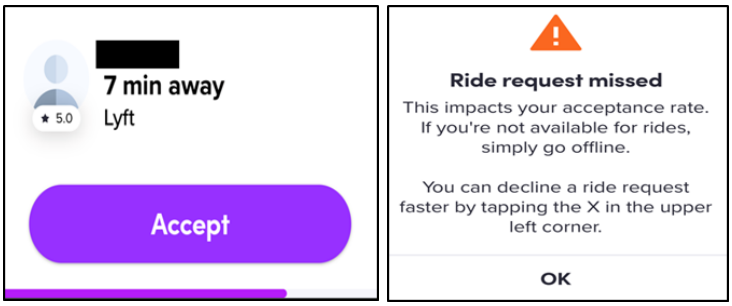
We also take driver and passenger preferences in account, like if a driver is currently in destination mode or if either person has ever rated the other three stars or below."

https://help.lyft.com/hc/en-us/articles/115012926847-How-drivers-and-passengers-are-paired

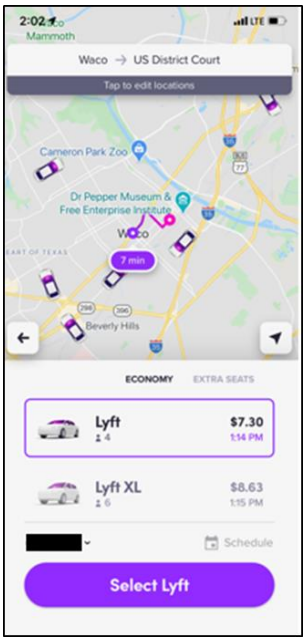
121. On information and belief, the Lyft App receives availability information about a plurality of candidates.



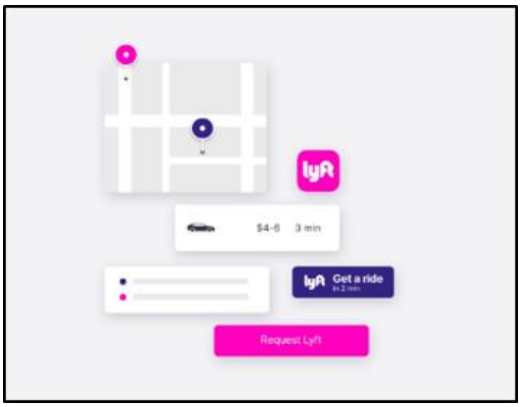
Lyft Driver Application Screenshot February 25, 2020



Lyft Driver Application Screenshot February 25, 2020



Lyft Passenger Application Screenshot February 9, 2020



https://www.lyft.com/developers/products/ride-request

"How drivers and passengers are paired
To keep drivers as busy as possible while also keeping ETAs low for passengers, we generally match passengers with drivers who will arrive soonest. When you drop off a passenger, it's likely that your next request will be close by.

We also take driver and passenger preferences in account, like if a driver is currently in destination mode or if either person has ever rated the other three stars or below."

https://help.lyft.com/hc/en-us/articles/115012926847-How-drivers-and-passengers-are-paired

122. On information and belief, the Lyft App automatically selects a candidate qualified and available to respond to the event from among the plurality of candidates.

"How to give a ride
At the top of the screen, slide the steering wheel icon to the right to go online. This lets you receive ride requests. To see what different requests looks like in the app, skip to How rides appear in the app.

Once you're online, follow these steps:

When you get a ride request, you'll see a notification with the passenger's name, pickup ETA, and ride type. Tap anywhere to accept.
Tap the arrow next to the pickup location
Select 'Tap to arrive' when you're at the pickup location. Tap 'Confirm arrival' to send the rider a text (if we haven't already).
Tap 'Pick up (passenger's name)' when the rider gets in to start the ride
Tap 'Navigate' to begin navigation, then drive the rider to their destination
Tap 'Tap to drop off' when you arrive at the drop-off location, then tap 'Confirm drop off' to end the ride
Tap the star icon to rate the passenger manually, or let the timer finish to auto-rate the passenger 5 stars. That's it!

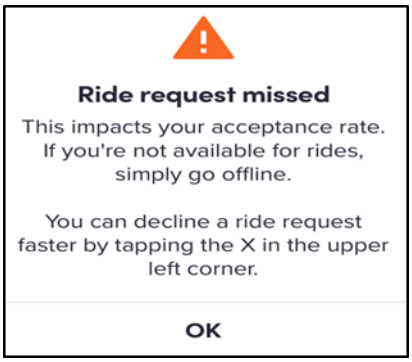
https://help.lyft.com/hc/en-us/articles/115013080028-How-to-give-a-Lyft-ride

How rides appear in the app
When you get a ride request, you'll see a notification with the passenger's name, pickup ETA, and ride type (Shared, Lyft Lux, etc).

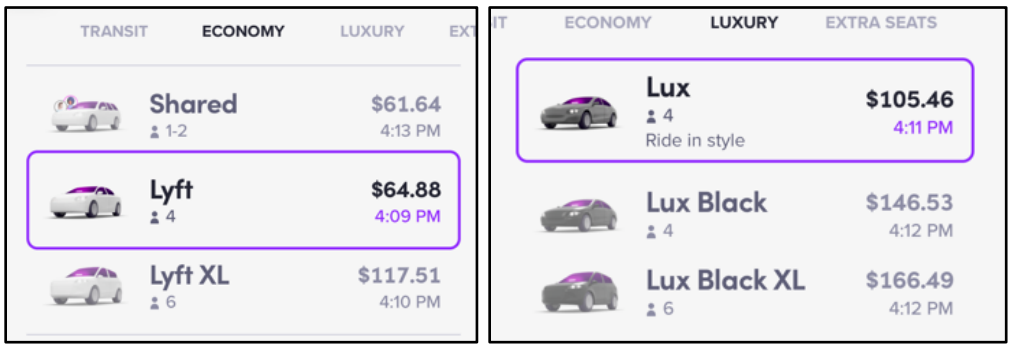
The Lyft Driver app may display ride request alerts in the following colors:

Standard Lyft: Pink
Shared: Purple
Lyft XL: Bright blue
Lyft Lux: Blue-gray
Lux Black and Lux Black XL: Black

https://help.lyft.com/hc/en-us/articles/115013080028-How-to-give-a-Lyft-ride

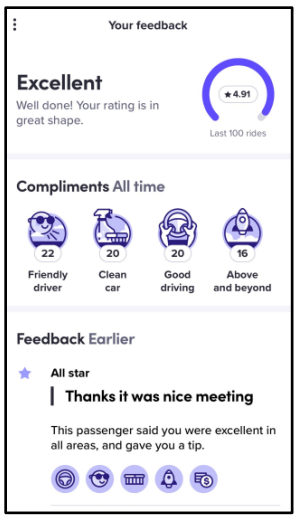


Lyft Driver Application Screenshot February 25, 2020



Lyft Passenger Application Screenshots February 25, 2020

https://developer.lyft.com/docs/ios-api-wrappers



Lyft Driver Application Screenshot February 25, 2020

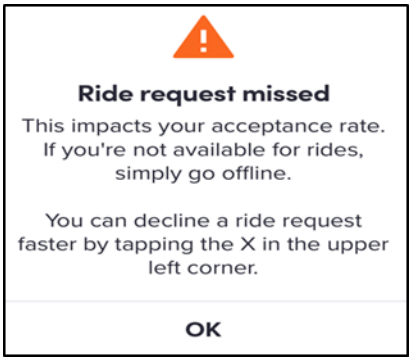
123. On information and belief, the Lyft App automatically assigns responsibility for the alert to the candidate.

"How to give a ride
At the top of the screen, slide the steering wheel icon to the right to go online. This lets you receive ride requests. To see what different requests looks like in the app, skip to How rides appear in the app.

Once you're online, follow these steps:

When you get a ride request, you'll see a notification with the passenger's name, pickup ETA, and ride type. Tap anywhere to accept.
Tap the arrow next to the pickup location
Select 'Tap to arrive' when you're at the pickup location. Tap 'Confirm arrival' to send the rider a text (if we haven't already).
Tap 'Pick up (passenger's name)' when the rider gets in to start the ride
Tap 'Navigate' to begin navigation, then drive the rider to their destination
Tap 'Tap to drop off' when you arrive at the drop-off location, then tap 'Confirm drop off' to end the ride
Tap the star icon to rate the passenger manually, or let the timer finish to auto-rate the passenger 5 stars. That's it!

https://help.lyft.com/hc/en-us/articles/115013080028-How-to-give-a-Lyft-ride



Lyft Driver Application Screenshot February 25, 2020

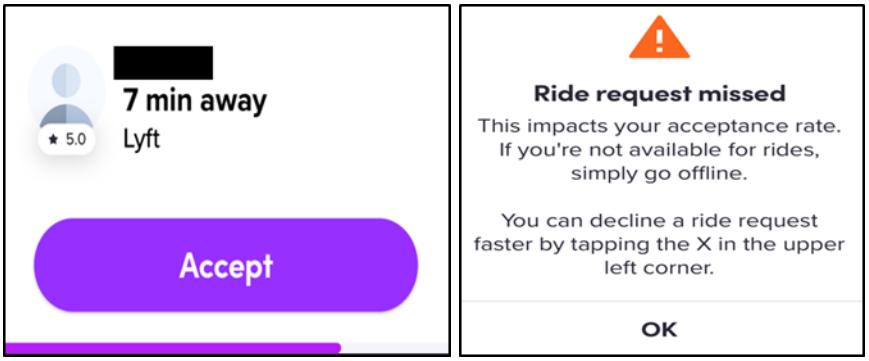
124. On information and belief, the Lyft App receives a reply from the candidate indicating acceptance of responsibility for the alert.

"How to give a ride
At the top of the screen, slide the steering wheel icon to the right to go online. This lets you receive ride requests. To see what different requests looks like in the app, skip to How rides appear in the app.

Once you're online, follow these steps:

When you get a ride request, you'll see a notification with the passenger's name, pickup ETA, and ride type. Tap anywhere to accept.
Tap the arrow next to the pickup location
Select 'Tap to arrive' when you're at the pickup location. Tap 'Confirm arrival' to send the rider a text (if we haven't already).
Tap 'Pick up (passenger's name)' when the rider gets in to start the ride
Tap 'Navigate' to begin navigation, then drive the rider to their destination
Tap 'Tap to drop off' when you arrive at the drop-off location, then tap 'Confirm drop off' to end the ride
Tap the star icon to rate the passenger manually, or let the timer finish to auto-rate the passenger 5 stars. That's it!

https://help.lyft.com/hc/en-us/articles/115013080028-How-to-give-a-Lyft-ride



Lyft Driver Application Screenshot February 25, 2020

125. Computer implanted method claim 14 is below:

14. A computer-implemented method of managing an information technology device, comprising:

receiving an alert from a managed information technology device;

automatically selecting a candidate qualified to respond to the event;

automatically determining if the candidate is available to respond to the event;

automatically sending an instant message to the candidate containing information about the alert;

receiving an instant message from the candidate indicating acceptance of responsibility for the alert; and

automatically assigning responsibility for the alert to the candidate.

126. On information and belief, the Lyft application or Lyft Network, which includes the passenger application, driver application, Lyft server, and all related technology (hereinafter, "Lyft App") is a computer implemented method of responding to a problem condition.

"To request a Lyft ride, download the Lyft app and create an account. Then:

In your app, tap 'Search destination' and enter your destination
Tap the correct address from the list provided
Choose your ride type. You can view additional ride types, such as Shared, Lux, or XL.
Tap 'Select Lyft'
Confirm or change your pickup spot and tap 'Confirm and request'
The pickup location will automatically set to your current GPS location. To change the pickup location:

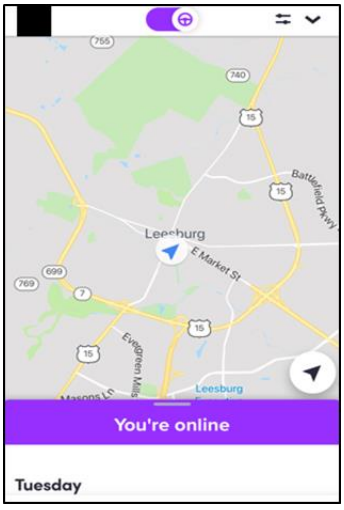
Tap 'Current location' at the top of the screen
Enter an address or drag the location pin to the right spot
Tap 'Set pickup.' That's it!"

https://help.lyft.com/hc/en-us/articles/115013079988-How-to-request-a-ride

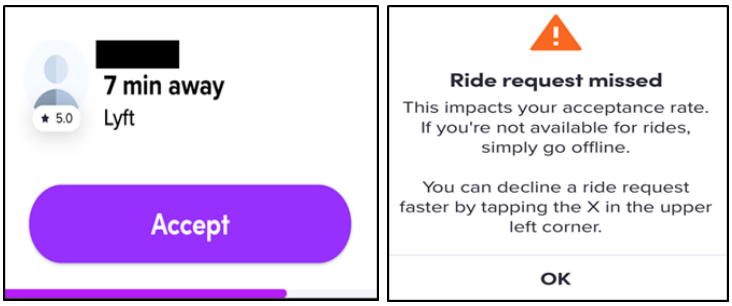
Ride Requests leverage Lyft's driver and passenger networks to transport your users with a smile. Your users authenticate and pay with Lyft through a range of integrations, from a simple deeplink to a full-fledged API.

https://www.lyft.com/developers/products/ride-request

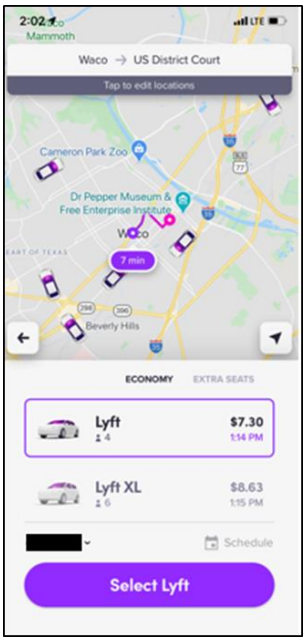
127. On information and belief, the Lyft App receives an alert from a managed information technology device.



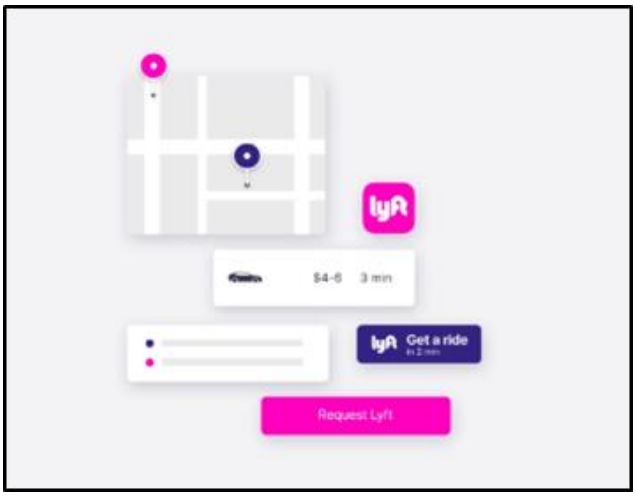
Lyft Driver Application Screenshot February 25, 2020



Lyft Driver Application Screenshot February 25, 2020



Lyft Passenger Application Screenshot February 9, 2020

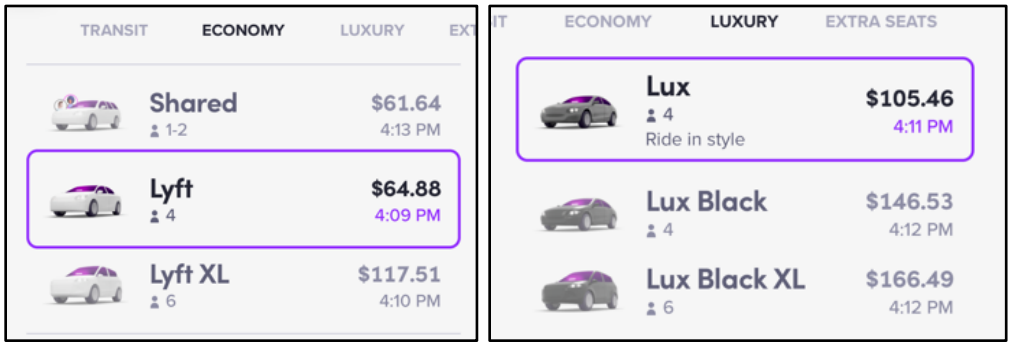


https://www.lyft.com/developers/products/ride-request

128. On information and belief, the Lyft App automatically selects a candidate qualified to respond to the event.

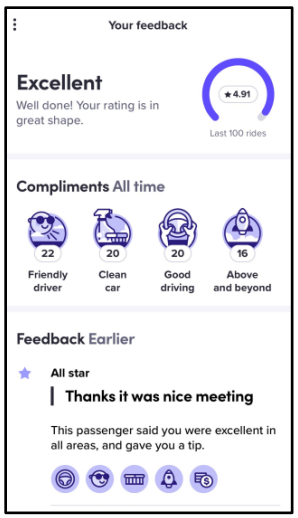
> **"How drivers and passengers are paired**
> To keep drivers as busy as possible while also keeping ETAs low for passengers, we generally match passengers with drivers who will arrive soonest. When you drop off a passenger, it's likely that your next request will be close by.
>
> We also take driver and passenger preferences in account, like if a driver is currently in destination mode or if either person has ever rated the other three stars or below."

https://help.lyft.com/hc/en-us/articles/115012926847-How-drivers-andpassengers-are-paired



Lyft Passenger Application Screenshots February 25, 2020

https://developer.lyft.com/docs/ios-api-wrappers

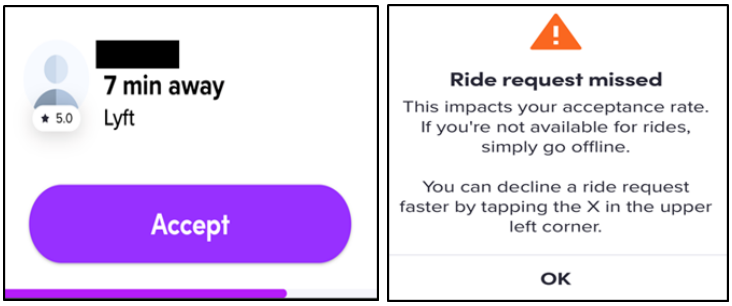


Lyft Driver Application Screenshot February 25, 2020

129. On information and belief, the Lyft App automatically determines if the candidate is available to respond to the event

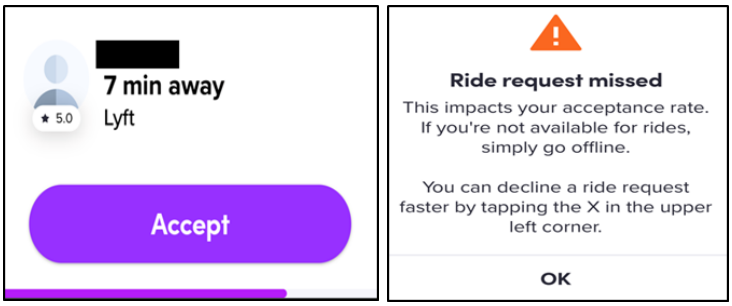
> **"How drivers and passengers are paired**
> To keep drivers as busy as possible while also keeping ETAs low for passengers, we generally match passengers with drivers who will arrive soonest. When you drop off a passenger, it's likely that your next request will be close by.
>
> We also take driver and passenger preferences in account, like if a driver is currently in destination mode or if either person has ever rated the other three stars or below."

https://help.lyft.com/hc/en-us/articles/115012926847-How-drivers-andpassengers-are-paired



Lyft Driver Application Screenshot February 25, 2020

130. On information and belief, the Lyft App automatically sends an instant message to the candidate containing information about the alert.



Lyft Driver Application Screenshot February 25, 2020

131. On information and belief, the Lyft App receives an instant message from the candidate indicating acceptance of responsibility for the alert.

"How to give a ride
At the top of the screen, slide the steering wheel icon to the right to go online. This lets you receive ride requests. To see what different requests looks like in the app, skip to How rides appear in the app.

Once you're online, follow these steps:

When you get a ride request, you'll see a notification with the passenger's name, pickup ETA, and ride type. Tap anywhere to accept.
Tap the arrow next to the pickup location
Select 'Tap to arrive' when you're at the pickup location. Tap 'Confirm arrival' to send the rider a text (if we haven't already).
Tap 'Pick up (passenger's name)' when the rider gets in to start the ride
Tap 'Navigate' to begin navigation, then drive the rider to their destination
Tap 'Tap to drop off' when you arrive at the drop-off location, then tap 'Confirm drop off' to end the ride
Tap the star icon to rate the passenger manually, or let the timer finish to auto-rate the passenger 5 stars. That's it!

https://help.lyft.com/hc/en-us/articles/115013080028-How-to-give-a-Lyft-ride

132. On information and belief, the Lyft App automatically assigns responsibility for the alert to the candidate.

"How to give a ride
At the top of the screen, slide the steering wheel icon to the right to go online. This lets you receive ride requests. To see what different requests looks like in the app, skip to How rides appear in the app.

Once you're online, follow these steps:

When you get a ride request, you'll see a notification with the passenger's name, pickup ETA, and ride type. Tap anywhere to accept.
Tap the arrow next to the pickup location
Select 'Tap to arrive' when you're at the pickup location. Tap 'Confirm arrival' to send the rider a text (if we haven't already).
Tap 'Pick up (passenger's name)' when the rider gets in to start the ride
Tap 'Navigate' to begin navigation, then drive the rider to their destination
Tap 'Tap to drop off' when you arrive at the drop-off location, then tap 'Confirm drop off' to end the ride
Tap the star icon to rate the passenger manually, or let the timer finish to auto-rate the passenger 5 stars. That's it!

https://help.lyft.com/hc/en-us/articles/115013080028-How-to-give-a-Lyft-ride

133. Computer implanted method claim 17 is below:

17. A computer-implemented method for assigning responsibility for responding to a fault condition in an information technology device, comprising:

(a) receiving an alert from a monitored information technology device, the alert describing an event in the monitored information technology device;

(b) automatically detecting an available administrator qualified to respond to the event;

(c) automatically sending a first instant message to the available administrator, the instant message referencing the alert and requesting an acknowledgement;

(d) receiving a second instant message from the available administrator, the second instant message containing the acknowledgement from the administrator; and

(e) automatically assigning responsibility for the event to the available administrator.

134. On information and belief, the Lyft application or Lyft Network, which includes the passenger application, driver application, Lyft server, and all related technology (hereinafter, "Lyft App") is a computer implemented method of responding to a problem condition.

"To request a Lyft ride, download the Lyft app and create an account. Then:

In your app, tap 'Search destination' and enter your destination
Tap the correct address from the list provided
Choose your ride type. You can view additional ride types, such as Shared, Lux, or XL.
Tap 'Select Lyft'
Confirm or change your pickup spot and tap 'Confirm and request'
The pickup location will automatically set to your current GPS location. To change the pickup location:

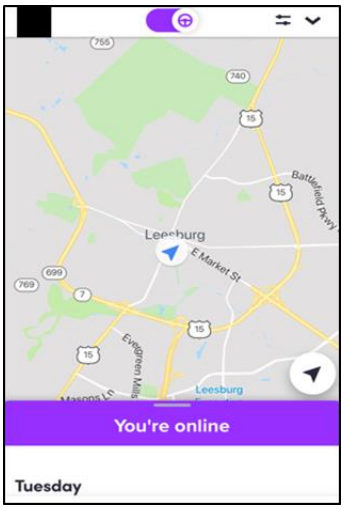
Tap 'Current location' at the top of the screen
Enter an address or drag the location pin to the right spot
Tap 'Set pickup.' That's it!"

https://help.lyft.com/hc/en-us/articles/115013079988-How-to-request-a-ride

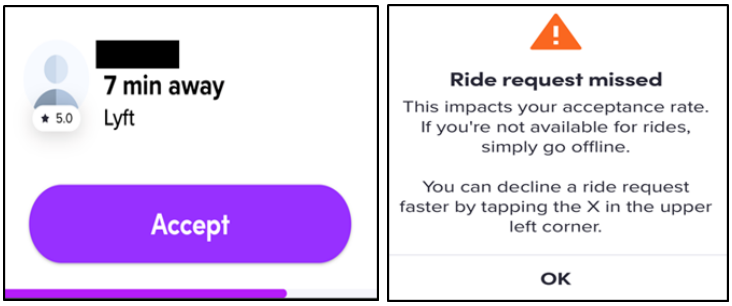
Ride Requests leverage Lyft's driver and passenger networks to transport your users with a smile. Your users authenticate and pay with Lyft through a range of integrations, from a simple deeplink to a full-fledged API.

https://www.lyft.com/developers/products/ride-request

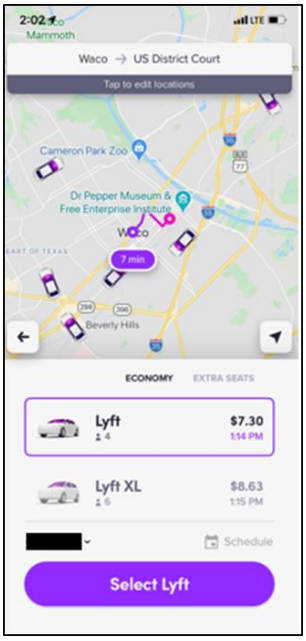
135. On information and belief, the Lyft App receives an alert from a monitored information technology device, the alert describes an event in the monitored information technology device.



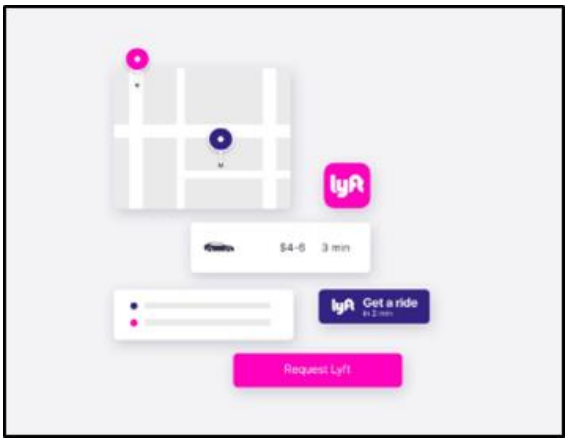
Lyft Driver Application Screenshot February 25, 2020



Lyft Driver Application Screenshot February 25, 2020



Lyft Passenger Application Screenshot February 9, 2020

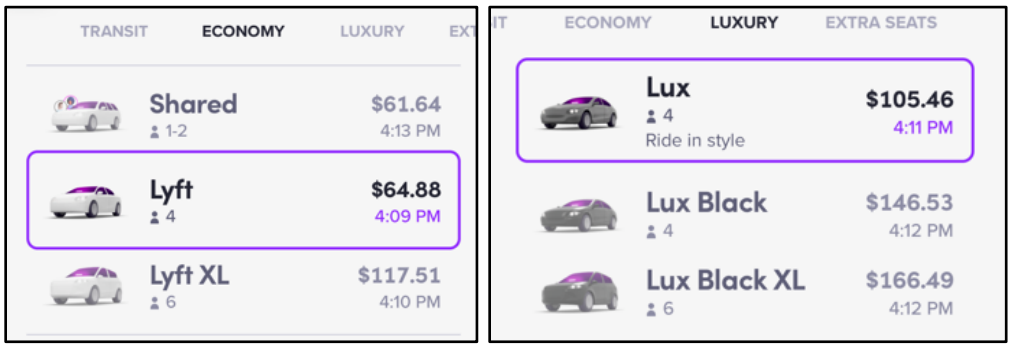


https://www.lyft.com/developers/products/ride-request

136. On information and belief, the Lyft App automatically detects an available administrator qualified to respond to the event.

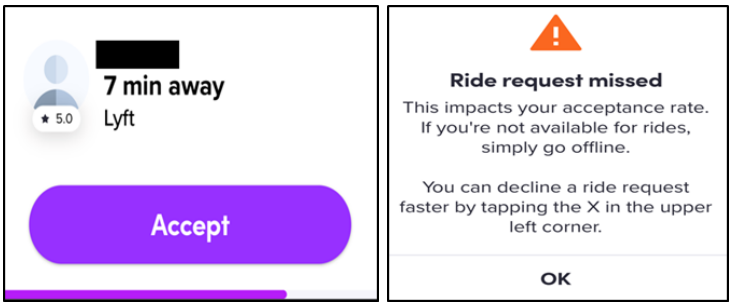
> **"How drivers and passengers are paired**
> To keep drivers as busy as possible while also keeping ETAs low for passengers, we generally match passengers with drivers who will arrive soonest. When you drop off a passenger, it's likely that your next request will be close by.
>
> We also take driver and passenger preferences in account, like if a driver is currently in destination mode or if either person has ever rated the other three stars or below."

https://help.lyft.com/hc/en-us/articles/115012926847-How-drivers-andpassengers-are-paired



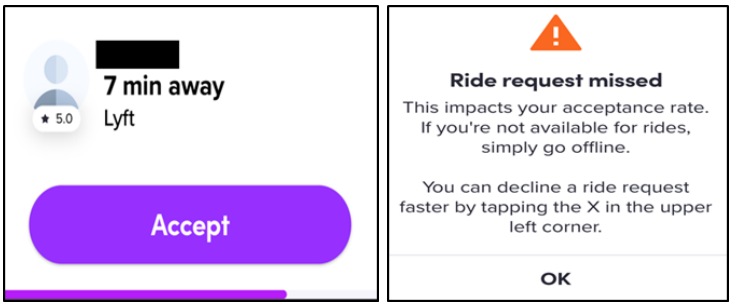
Lyft Passenger Application Screenshots February 25, 2020

https://developer.lyft.com/docs/ios-api-wrappers



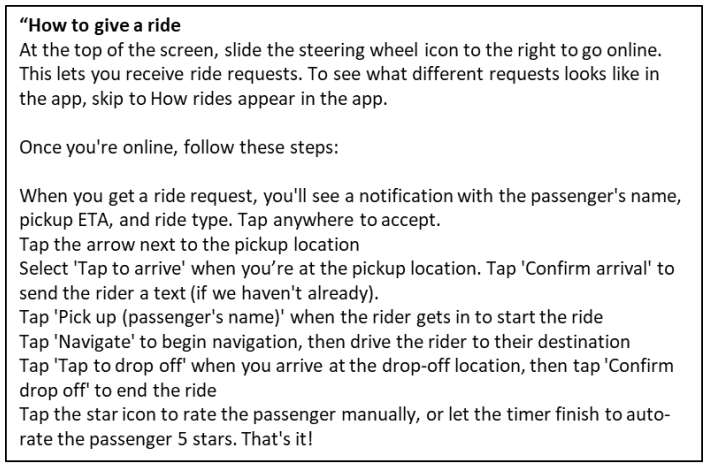
Lyft Driver Application Screenshot February 25, 2020

137. On information and belief, the Lyft App automatically sends a first instant message to the available administrator, the instant message references the alert and requests acknowledgment.



Lyft Driver Application Screenshot February 25, 2020

138. On information and belief, the Lyft App receives a second instant message from the available administrator, the second instant message contains the acknowledgement from the administrator.



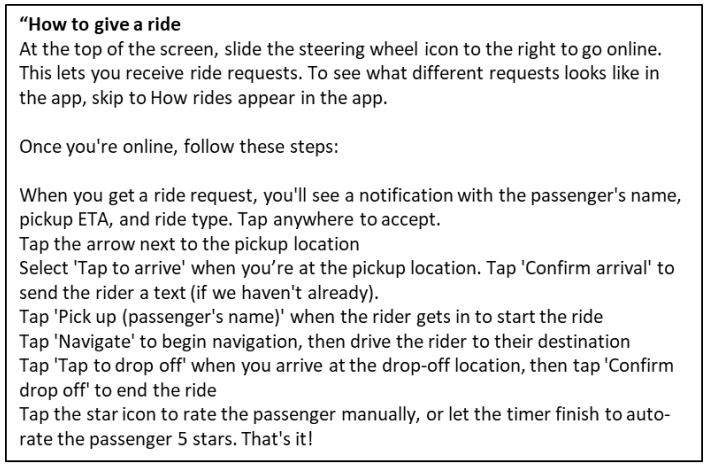
"How to give a ride
At the top of the screen, slide the steering wheel icon to the right to go online. This lets you receive ride requests. To see what different requests looks like in the app, skip to How rides appear in the app.

Once you're online, follow these steps:

When you get a ride request, you'll see a notification with the passenger's name, pickup ETA, and ride type. Tap anywhere to accept.
Tap the arrow next to the pickup location
Select 'Tap to arrive' when you're at the pickup location. Tap 'Confirm arrival' to send the rider a text (if we haven't already).
Tap 'Pick up (passenger's name)' when the rider gets in to start the ride
Tap 'Navigate' to begin navigation, then drive the rider to their destination
Tap 'Tap to drop off' when you arrive at the drop-off location, then tap 'Confirm drop off' to end the ride
Tap the star icon to rate the passenger manually, or let the timer finish to auto-rate the passenger 5 stars. That's it!

https://help.lyft.com/hc/en-us/articles/115013080028-How-to-give-a-Lyft-ride

139. On information and belief, the Lyft App automatically assigns responsibility for the event to the available administrator.



"How to give a ride
At the top of the screen, slide the steering wheel icon to the right to go online. This lets you receive ride requests. To see what different requests looks like in the app, skip to How rides appear in the app.

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Tap the star icon to rate the passenger manually, or let the timer finish to auto-rate the passenger 5 stars. That's it!

https://help.lyft.com/hc/en-us/articles/115013080028-How-to-give-a-Lyft-ride

140. On information and belief, Defendant's actions have and continue to constitute active inducing infringement of at least claims 1-4, 5-13, 14-16, and 17 of the '215 patent in violation of 35 U.S.C. §271(b).

141. As a result of Defendant's infringement of at least claims 1-4, 5-13, 14-16, and 17 of the '215 patent, Plaintiff Quartz Auto has suffered monetary damages in an amount yet to be determined, and will continue to suffer damages in the future unless Defendant's infringing activities are enjoined by this Court. Defendant is liable to Plaintiff in an amount that adequately

compensates for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

142. Defendant's wrongful acts have damaged and will continue to damage Plaintiff Quartz Auto irreparably, and Plaintiff has no adequate remedy at law for those wrongs and injuries. In addition to its actual damages, Plaintiff Quartz Auto is entitled to a permanent injunction restraining and enjoining Defendant and its agents, servants, and employees, and all person acting thereunder, in concert with, or on its behalf, from infringing at least claims 1-4, 5-13, 14-16, and 17 of the '215 patent.

COUNT V
PATENT INFRINGEMENT OF THE '616 PATENT

143. Plaintiff Quartz Auto repeats and realleges the above paragraphs, which are incorporated by reference as if fully restated herein.

144. Plaintiff Quartz Auto is the owner of all rights, title, and interest in the '616 patent.

145. Plaintiff Quartz Auto and its predecessors in interest have never licensed to Defendant under the '616 patent, nor has Plaintiff Quartz Auto otherwise authorized the Defendant to practice any part of the '616 patent.

146. The '616 patent is presumed valid under 35 U.S.C. § 282.

147. The '616 patent relates to, among other things, the management of mobile objects and a service platform for mobile objects.

148. On information and belief, Defendant operates a ride-hailing service that uses a passenger and driver application to manage mobile objects (vehicles).

149. **Direct Infringement:** On information and belief, Defendant has directly infringed and continues to directly infringe, either literally or under the doctrine of equivalents, one or more claims of the '616 patent, including for example (but not limited to) at least system claims 1-10,

method claims 11-15, and computer program claims 16-19 of the '616 patent by making, using, distributing, providing, supplying, selling, offering to sell, or importing without license or authority, Defendant's application that include infringing features. The infringing products includes applications that monitors the locations of drivers (mobile objects) and passengers within a geographic area. This is without Plaintiff Quartz Auto's authorization, in violation of 35 U.S.C. §271(a). A detailed infringement claim mapping is provided in paragraphs 154-156 below.

150. **Induced Infringement:** On information and belief, Defendant has and continues to promote, advertise, and instruct current drivers and riders, and potential drivers and riders about Lyft products, such as:

(i) Providing Defendant's downloadable applications for Rider (https://www.lyft.com/rider) and Driver (https://www.lyft.com/driver);

(ii) Providing an overview of how to use Lyft's branded products (https://www.lyftbusiness.com), including instructions for riders to use the services (https://help.lyft.com/hc/en-us/categories/115002006488-Riding-with-Lyft), and

(iii) Providing requirements for drivers to sign-up for the service (https://help.lyft.com/hc/en-us/categories/115002009967-Driving-with-Lyft).

Defendant's promotion, advertising, and instruction efforts include, at a minimum, maintenance of its own website http://www.lyft.com/, providing additional driver application requirements and Frequently Asked Questions (FAQs), and other indicia of Lyft branded products (https://www.lyft.com/driver-application-requirements). Defendant's software applications require both the rider and the driver to download the software applications for mobile computing devices, such as smartphones, laptops, and tablets, which enables Lyft to control the actions of both the riders and the drivers to use the infringing features of the products and methods for ride-

hailing. On information and belief, Defendant continues to engage in these acts with knowledge of the '616 patent by the filing of this Complaint, and with the actual intent to cause the acts which it knew or should have known would induce actual infringement.

151. Defendant Lyft has infringed the '616 patent by making, having made, using, importing, providing, supplying, distributing, selling, or offering for sale systems utilizing a method and system for tracking mobile objects.

152. The '616 patent is well known in the industry – having been cited in at least 11 cited patents since its filing date

153. **Detailed Mapping of Direct Infringement:** On information and belief, infringement of the '616 patent by these Lyft ride-hailing products and applications is demonstrated below. System claim 1 of the '616 patent is representative of, and is of similar scope to method claim 11 and computer program claim 16 of the '616 patent.

154. System claim 1 is representative of the alleged claims:

> 1. A system comprising:
>
> a mobile object server operable to receive information from each of a plurality of mobile objects within a geographic space and perform a process associated with each mobile object; and
>
> a registration server operable to register a first additional process that is to be performed in addition to a first basic process common to the plurality of mobile objects, in association with one mobile object among the plurality of mobile objects, wherein the mobile object server is operable to perform, as the first additional process, a process of providing notification that the one mobile object has become distanced from a predetermined location or region.

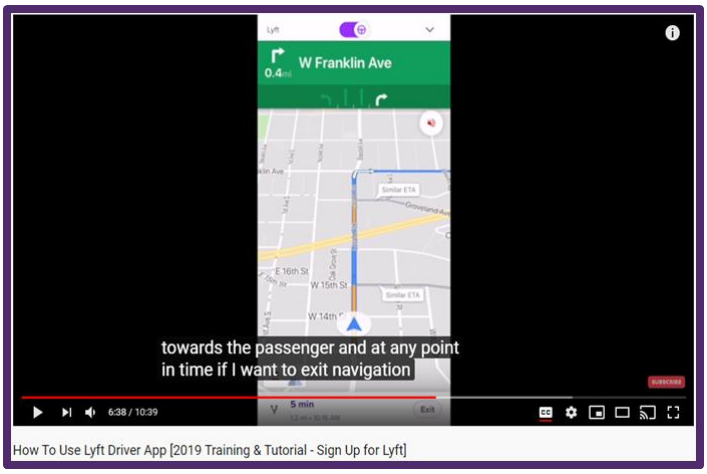
155. On information and belief, the Lyft application or Lyft Network, which includes the passenger application, driver application, Lyft server, and all related technology (hereinafter, "Lyft App") is a system comprising a mobile object server operable to receive information from each of a plurality of mobile objects within a geographic space and perform a process associated with each mobile object.

> "We leverage Lyft vehicle telemetry data collected for forty days in the summer of 2018 in San Francisco and Palo Alto, collected from smartphones. Each data point contains the *latitude, longitude, accuracy, speed* and *bearing*. A future iteration of this work could make use of more features like *acceleration*, *gyroscope*, and *timestamp*."

http://urban.cs.wpi.edu/urbcomp2019/file/Urbcomp_2019_paper_12.pdf

> The client apps are native iOS and Android. The servers are mostly PHP and run on Amazon EC2. They talk to each other using a REST API.

https://www.quora.com/What-technology-does-Lyft-use-In-their-dispatch-service-which-languages-are-used-How-is-Lyft-providing-real-time-geotracking-to-multiple-mobile-clients-Finally-how-was-Lyft-able-to-develop-their-consumer-facing-app-so-quickly



https://www.youtube.com/watch?v=a8n2--HlzDU

156. On information and belief, the Lyft App is a system comprising a registration server operable to register a first additional process that is to be performed in addition to a first basic process common to the plurality of mobile objects, in association with one mobile object among the plurality of mobile objects, wherein the mobile object server is operable to perform, as the first additional process, a process of providing notification that the one mobile object has become distanced from a predetermined location or region.

"We leverage Lyft vehicle telemetry data collected for forty days in the summer of 2018 in San Francisco and Palo Alto, collected from smartphones. Each data point contains the *latitude, longitude, accuracy, speed* and *bearing*. A future iteration of this work could make use of more features like *acceleration*, *gyroscope*, and *timestamp*."

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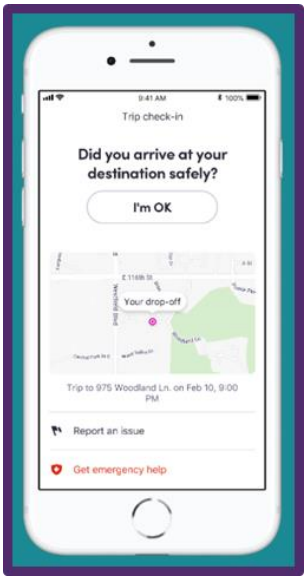
The client apps are native iOS and Android. The servers are mostly PHP and run on Amazon EC2. They talk to each other using a REST API.

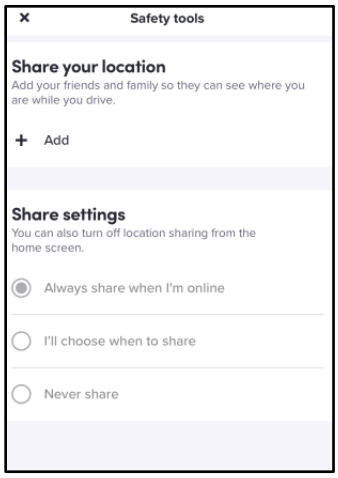
https://www.quora.com/What-technology-does-Lyft-use-In-their-dispatch-service-which-languages-are-used-How-is-Lyft-providing-real-time-geotracking-to-multiple-mobile-clients-Finally-how-was-Lyft-able-to-develop-their-consumer-facing-app-so-quickly

Predicting when someone needs help

Coming soon: In some cases, if we notice your ride has stopped too soon or for an unusual amount of time, drivers and riders will hear from Lyft. We'll ask if you need support, and if necessary, we'll give you the option to request emergency assistance.



https://www.lyft.com/safety/rider



Lyft Driver Application Screenshot February 25, 2020

157. On information and belief, Defendant's actions have and continue to constitute active inducing infringement of at least claims 1-10, 11-15, and 16-19 of the '616 patent in violation of 35 U.S.C. § 271(b).

158. As a result of Defendant's infringement of at least claims 1-10, 11-15, and 16-19 of the '616 patent, Plaintiff Quartz Auto has suffered monetary damages in an amount yet to be determined, and will continue to suffer damages in the future unless Defendant's infringing activities are enjoined by this Court. Defendant is liable to Plaintiff in an amount that adequately compensates for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

159. Defendant's wrongful acts have damaged and will continue to damage Plaintiff Quartz Auto irreparably, and Plaintiff has no adequate remedy at law for those wrongs and injuries. In addition to its actual damages, Plaintiff Quartz Auto is entitled to a permanent injunction restraining and enjoining Defendant and its agents, servants, and employees, and all person acting thereunder, in concert with, or on its behalf, from infringing at least claims 1-10, 11-15, and 16-19 of the '616 patent.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff Quartz Auto respectfully requests that this Court enter:

A. A judgment in favor of Plaintiff Quartz Auto that Defendant has been and is infringing at least claims 1-33 of the '004 patent, claims 1-22 of the '464 patent, claims 1-23 of the '085 patent, claims 1-17 of the '215 patent, and claims 1-19 of the '616 patent pursuant to 35 U.S.C. §§ 271(a) and/or 271(b);

B. A permanent injunction enjoining Defendant and its officers, directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting in

concert or privity with any of them from infringing, or inducing the infringement of, at least claims 1-33 of the '004 patent, claims 1-22 of the '464 patent, claims 1-23 of the '085 patent, claims 1-17 of the '215 patent, and claims 1-19 of the '616 patent;

C. A judgment awarding Plaintiff Quartz Auto all damages adequate to compensate it for Defendant's infringement of the Quartz Auto Patents under 35 U.S.C. § 284, and in no event less than a reasonable royalty for Defendant's acts of infringement, including all post-judgment interest at the maximum rate permitted by law, and also any past damages permitted under 35 U.S.C. § 286, as a result of Defendant's infringement of at least claims 1-33 of the '004 patent, claims 1-22 of the '464 patent, claims 1-23 of the '085 patent, claims 1-17 of the '215 patent, and claims 1-19 of the '616 patent;

D. An assessment of costs, including reasonable attorney fees pursuant to 35 U.S.C. § 285, and prejudgment interest against Defendant; and

E. Such other and further relief as this Court may deem just and proper.

JURY TRIAL DEMANDED

Pursuant to FED. R. CIV. P. 38, Plaintiff Quartz Auto hereby demands a trial by jury on all issues so triable.

Dated: February 28, 2020

Respectfully submitted,

By: /s/ Thomas M. Dunlap

Thomas M. Dunlap (Admitted W.D. Tex./VA Bar No. 44016)
David Ludwig (Admitted W.D. Tex./VA Bar No. 73157)
Dunlap Bennett & Ludwig PLLC
8300 Boone Blvd., Suite 550
Vienna, Virginia 22182
(703) 442-3890 (t)
(703) 777-3656 (f)

tdunlap@dbllawyers.com
dludwig@dbllawyers.com

Attorneys for Quartz Auto Technologies LLC